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Wisconsin Power Plant Impact Study

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Two hundred and fifteen invited participants attended four public workshops in four Wisconsin cities in the spring of 1977. They were divided into small groups and asked to identify and rank power plant siting concerns in three categories: biological and physical, economic and social, and land use. Each group ranked the top ten concerns in each of the three categories. Participants also completed a survey asking them to rank sites for power plants and transmission lines, to provide some personal background information, and to express their views on the workshop.

A list of every concern mentioned is included in this report, and concerns are combined and analyzed by their ranking, both overall and in the final vote. Economic issues (taxes, consumer costs, community costs, and jobs), agricultural land preservation, and water availability were consistently ranked as the most important concerns. The survey revealed a negative reaction to siting in residential areas, some preference for several small plants rather than one large one, a favorable reaction to power plants designed to serve only local needs, a negative attitude toward Wisconsin's new tax law which provides less power plant tax money for local governments, and a favorable attitude toward the workshops.

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CITIZEN CONCERN WITH POWER PLANT SITING

Wisconsin Power Plant Impact Study

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FOREWORD

The U.S. Environmental Protection Agency (EPA) was created because of increasing public and governmental concern about the dangers of pollution to the health and welfare of the American people. Polluted air, water, and land are tragic testimony to the deterioration of our natural environment. The complexity of that environment and the interplay between its components require a concentrated attack on the problem.

Research and development, the necessary first steps, involve definition of the problem, measurements of its impact, and the search for solution. The EPA, in addition to its own laboratory and field studies, supports environmental research projects at other institutions. These projects are designed to assess and predict the effects of pollutants on ecosystems.

One such project, which the EPA is supporting through its Environmental Research Laboratories in Duluth, Minnesota, and Corvallis, Oregon (Dr. Norman R. Glass) is the study "The Impacts of Coal-Fired Power Plants on the Environment". This interdisciplinary study, involving investigators and experiments from many academic departments at the University of Wisconsin, is being carried out by the Environmental Monitoring and Data Acquisition Group of the Institute for Environmental Studies at the University of Wisconsin-Madison. Several utilities and state agencies are cooperating in the study: Wisconsin Power and Light Company, Madison Gas and Electric Company, Wisconsin Public Service Corporation, Wisconsin Public Service Commission, and Wisconsin Department of Natural Resources.

During the next year reports from this study will be published as a series within the EPA Ecological Research Series. These reports will include topics related to chemical constituents, chemical transport mechanisms, biological effects, social and economic effects, and integration and synthesis.

This report presents in detail the responses of citizens who participated in four public workshops dealing with the problems of site selection for power plants. Meeting in small groups the participants formulated and then ranked the issues related to power-plant siting that most affected them. In addition to presenting these results, the authors describe the workshop procedure, discuss differences among the workshops, and analyze the results of a questionnaire which the participants were asked to complete.

J. David Yount
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ABSTRACT

Four workshops were held to identify citizen concerns with power-plant siting. Two-hundred fifteen invited participants attended the workshops in the spring of 1977 in four Wisconsin locations, including areas with both existing and proposed power-plant sites. At the workshops, participants were divided into small groups and asked to identify and rank power-plant-siting concerns in three categories: biological and physical, economic and social, and land use. Each group ranked the top 10 concerns from each of the three categories. In addition, workshop participants filled out a survey which asked them to rank the suitability of various sites for nuclear and coal-fired power plants and transmission lines, to express their views on questions that could not be covered in a workshop format, to provide some personal information, and to give their views on the workshop. The participants in these workshops expressed a wide range of concerns, both positive and negative, in connection with power-plant siting.

A composite list of every concern mentioned by the participants is included in this report. In addition, concerns were combined and analyzed by their ranking, both overall and in the final vote. Economic issues (taxes, consumer costs, and jobs), agricultural land preservation, and water availability were consistently ranked as the most important concerns.

The survey results indicated a strong negative reaction to siting in residential areas; some preference for several small plants rather than one large plant (46% versus 36%); a favorable attitude to power plants serving only local electrical needs; a negative attitude toward Wisconsin's new tax law, which provides less power-plant tax money for local governments; and a favorable attitude toward the workshops.

This report was prepared with the cooperation of faculty and graduate students in the Department of Landscape Architecture at the University of Wisconsin-Madison.

Most of the funding for the research reported here was provided by the U.S. Environmental Protection Agency, but funds were also granted by the University of Wisconsin-Madison, Wisconsin Power and Light Company, Madison Gas and Electric Company, Wisconsin Public Service Corporation, and Wisconsin Public Service Commission. This report was submitted in fulfillment of Grant No. R803971 by the Environmental Monitoring and Data Acquisition Group, Institute for Environmental Studies, University of Wisconsin-Madison, under the partial sponsorship of the U.S. Environmental Protection Agency. The report covers the period of January 1977-July 1977, and work was completed as of December 1978.

CONTENTS

Foreword iii
Abstract iv
Figures vi
Tables vii
Acknowledgments ix

1. Introduction 1
2. Conclusions and Recommendations 6
3. Methods and Overall Results 8
4. Specific Workshop Results 17
    Janesville 17
    Eau Claire 22
    Stevens Point 26
    Sheboygan 31
5. The Survey 36
6. Comments on the Workshops 42

Appendices

A. Comprehensive List of Power-Plant-Siting Concerns 44
B. Janesville Workshop 58
C. Eau Claire Workshop 70
D. Stevens Point Workshop 79
E. Sheboygan Workshop 90
F. The Survey 101
G. Comments on the Workshops 105

FIGURES

Number Page

1 Map of Wisconsin showing workshop locations and counties represented by participants 2

2 Category rankings provided by voting on the 30 most important concerns and all concerns 13

3 Workshop differences in rankings of concern categories when all concerns were considered 15

4 Percentage of the vote on the 30 most important concerns given to economics, agricultural land preservation, and water by Janesville groups 20

5 Percentage of the vote on the 30 most important concerns given to economic, agricultural land preservation, and water by Eau Claire groups 25

6 Percentage of the vote on the 30 most important concerns given to economic, agricultural land preservation, and water by Stevens Point groups 29

7 Percentage of the vote on the 30 most important concerns given to economic, agricultural land preservation, and water by Sheboygan groups 34

TABLES

Number — Page

1 Number of Workshop Participants by County and Occupation or Field of Interest 9

2 Number of Concerns at Each Workshop Listed in Each of Three General Areas 11

3 Power-Plant-Siting Concerns Ranked According to 26 Categories 12

4 Highest Ranking Categories of Siting Concerns Based on the Four Workshop Votes on the 30 Most Important Concerns 14

5 Janesville Workshop: Ranking of Categories of Siting Concerns Based on the Vote on All Concerns 18

6 Janesville Workshop: Highest Ranking Categories of Siting Concerns Based on the Vote in the 30 Most Important Concerns 21

7 Eau Claire Workshop: Ranking of Categories of Siting Concerns Based on the Vote on All Concerns 23

8 Eau Claire Workshop: Highest Ranking Categories of Siting Concerns Based on the Vote on the 30 Most Important Concerns 24

9 Stevens Point Workshop: Ranking of Categories of Siting Concerns Based on the Vote on all Concerns 27

10 Stevens Point Workshop: Highest Ranking Categories of Siting Concerns Based on the Vote on the 30 Most Important Concerns 28

11 Sheboygan Workshop: Ranking of Categories of Siting Concerns Based on the Vote on All Concerns 32

12 Sheboygan Workshop: Highest Ranking Categories of Siting Concerns Based on the Vote on the 30 Most Important Concerns 33

13 Reaction of Participants as Determined by Survey to the Establishment of a Local Power Plant to Serve (1) Local or (2) Nonlocal Energy Needs 38

14 Rating by Workshop Participants of Land-Use Categories for Use as Power-Plant Sites 38

15 Ranking by Workshop Participants of Land-Use Categories for Use as Transmission-Line Sites 39

16 Effect of Occupation of Respondents on their Ranking of the Use of Agricultural Land for Transmission Lines 40

17 Rating of Workshops by Participants 42

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Jerry Shelton - Janesville
Robert Terrell - Janesville, Eau Claire, Stevens Point
Anton tenWolde - Janesville
David Younkman - Eau Claire, Stevens Point

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SECTION 1

INTRODUCTION

WORKSHOP RATIONALE

In the spring of 1977 four workshops on power-plant siting were organized by researchers from the University of Wisconsin. The purpose of these workshops, held in Janesville, Eau Claire, Stevens Point, and Sheboygan, Wisconsin, was to enable residents of the to express their views on the location and possible impact of power plants. Two hundred and fifteen invited participants from 17 Wisconsin counties (Figure 1) spent an entire day at one of the four workshops expressing their concerns, attitudes, and values with regard to power-plant siting. The workshops were part of a larger study designed to assess the environmental impact of power plants. That study has sought to measure the impact of the Columbia Generating Station in Portage, Wisconsin, on the water, wildlife, plants, air, and scenic environment of the area.

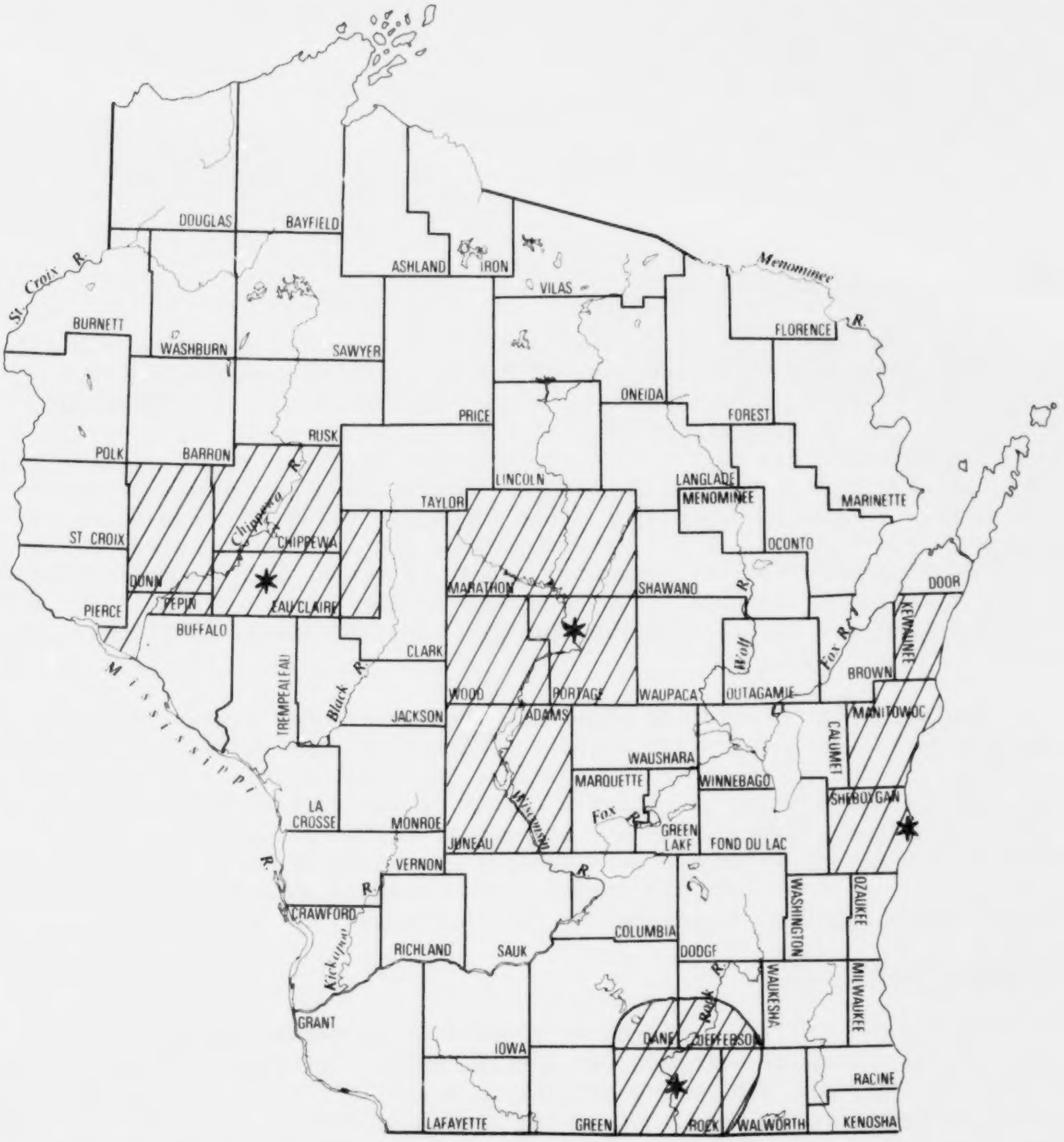
Environmental monitoring studies, especially those concentrating on one newly constructed power plant, cannot document all the effects of power-plant construction and operation. They rarely, for example, focus on nonscientific public concerns such as the plant's impact on employment or the effects of flashing control-tower lights and increased traffic in the area. The power-plant siting workshops were designed to identify these public concerns and incorporate them into the overall environmental impact assessment. This report describes the results of the four workshops.

WORKSHOP OBJECTIVES

The workshops were designed to provide an organized structure for identifying the major economic and environmental attitudes held by persons living near present and future generating facility sites. Both positive and negative aspects of power-plant siting were considered. All possible types of power plants were included in the discussion for the following reasons:

1) Many of the requirements and impacts of large electric generating stations of any type, whether coal, nuclear, or gas, are similar.

2) Even where the impacts of various types of power plants are different, a participant's preference for one type of power plant over another can be distinguished. For example, if radiation or nuclear waste disposal is mentioned more often than SO_2, smoke, and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BAYFIELD
ASHLAND
IRON
VILAS
Menominee
St. Croix R.
BURNETT
WASHBURN
SAWYER
FLORENCE
R.
ONEIDA
FOREST
PRICE
RUSK
POLK
BARRON
LINCOLN
LANGLADE
MENOMINEE
MARINETTE
TAYLOR
Chippewa R.
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Fox R.
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Black R.
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ADAMS
CALUMET
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MARQUETTE
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LA CROSSE
MONROE
JUNEAU
GREEN LAKE
FOND DU LAC
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R.
OZAUKEE
WASHINGTON
CRAWFORD
R.
COLUMBIA
RICHLAND
SAUK
DODGE
Kickapoo
Rock R.
WAUKESHA
MILWAUKEE
GRANT
DANE
JEFFERSON
IOWA
RACINE
LAFAYETTE
GREEN
ROCK
WALWORTH
KENOSHA

Figure 1. Map of Wisconsin showing workshop locations and counties represented by participants.

particulate pollution, concern is probably greater about a nuclear power plant than about a coal-fired plant.

3) A third reason for not distinguishing the type of power plant was that a site for a power plant may be chosen before the type. For example, although a nuclear plant was first proposed at the Koshkonong site, a coal-fired plant is now reportedly being considered.

The workshops were further designed to represent all interest groups. Participants were recommended by county extension agents, officials from the Wisconsin Department of Natural Resources (WDNR) and the Wisconsin Public Service Commission (WPSC), local officials, members of regional planning commissions, chambers of commerce, and state and local interest groups such as the Farm Bureau, environmental organizations, the League of Women Voters, and many others.

Workshop participants included farmers, union members, elected local and county officials (including several mayors and county board chairmen), county and state employees, and representatives of commercial, industrial, recreational, and environmental interests, as well as members of the League of Women Voters and concerned citizens.

WORKSHOP FORMAT

Since the goal of the workshops was to identify public concerns rather than to provide a forum for discussion, a rather rigid format was followed. After registration and a brief introduction, participants were divided into groups of 8-10 persons, representing a variety of interests. Each group was led by a university person familiar with the question of the environmental impact of power plants. The group leaders coordinated and recorded the information developed by the groups, but did not join in the process of listing or ranking concerns. A method of group participation known as the "nominal group technique" was used. Developed by Professor Andre Delbecq of the University of Wisconsin-Madison School of Business, the technique minimizes discussion and moves quickly to identify the important concerns. The round-robin sequence of the Delbecq technique gave each participant an equal input into the results.

Concerns of the participants were divided into three general areas: (1) Biological and physical, (2) economic and social, and (3) land use. Participants were given 10 min to work independently on lists of their 10 most important concerns in each area. The group leader then asked each participant to contribute to the group's collective list. The round-robin continued until all concerns were listed. After discussion of the collective lists, each participant was asked to choose the 10 most important concerns from the list. A vote was taken on these concerns with 10 points going to the participant's most important concern, 9 points to the second most important concern, and so on down to 1 point for the 10th most important concern.

These concerns were then combined by the researchers into larger categories within each of the three areas. These categories were as follows:

Economic
Political/planning
Health and radiation
Growth
Water
Agricultural land preservation
Wastes
Plant location
Air/climate
Environmental pollution
Safety/security
Social/cultural
Scenic/historic
Physical site characteristics
Natural environment
Transmission lines
Transportation
Plant operation
Need for plant
Recreation
Conservation
Land use changes
Research
Future generations
Noise
Insurance

The final vote was a vote on the 10 most important concerns in each of the three areas, resulting in a list of the 30 most important concerns. These concerns were again placed by the researchers in the above categories; in many cases various concerns were combined into a single category. The workshop format was designed to provide information that cannot be obtained by a survey or public hearings, since in small groups each individual could contribute to the listing and voting. The small groups also provided a means for some exchange of ideas and viewpoints, which the final list reflects.

In addition to the workshop activity, a questionnaire was distributed to participants to identify views not covered in the small groups. Participants were asked (1) to rate various kinds of sites (for example, industrial, commercial, agricultural, or wetland areas) for a nuclear power plant, a coal-fired power plant, and transmission lines; (2) to express their willingness to accept a power plant to meet increased electrical demand elsewhere in the state; (3) to provide information on their occupation, age, and whether or not they live near a power plant; and (4) to express their views on the workshop.

OVERVIEW OF THE REPORT

Section 2 is a brief summary of the principal conclusions contained in this report.

Section 3 presents the overall results from all four workshops. Overall summary tables are presented, together with a comparison of the results from the four workshops. Appendix A is a list of all the concerns identified by the 215 participants.

Section 4 reports on the four individual workshops and briefly examines the variations among subgroups for some of the major concerns.

Appendices B, C, D, and E contain the lists of participants by groups together with a complete listing by rank of each group's concerns, arranged in the following categories: Biological and physical, economic and social, and land use. The final voting categories are also presented.

The results of the supplementary survey are found in Section 5. The survey, which was completed by 190 participants, is presented in Appendix F.

Written comments on the workshops, obtained from participants who completed the survey, are summarized in Section 6 and are presented in full in Appendix G.

SECTION 2

CONCLUSIONS AND RECOMMENDATIONS

The general categories of issues that were mentioned the most frequently and ranked the highest were economics (including taxes, growth, jobs, community costs, and consumer costs), agricultural land preservation, and water availability. These categories may be thought of as concerns over money, jobs, food, and water.

Environmental issues, including preservation of natural areas, water pollution, scenic values, and noise, were often mentioned, but rarely were the highest ratings.

Some issues, such as conservation, establishing the need for the plant, and concern for future generations, were ranked as very important whenever they were mentioned in a group; however, some groups considered these concerns as prerequisites for power-plant siting and therefore did not include them.

Other issues, such as social and cultural changes (for example, population changes and changes in lifestyle), were frequently mentioned, but never were ranked very highly.

Despite some variations, the differences in rankings given by the different workshops were not statistically significant.

When asked to rate various land-use categories for power-plant sites, participants placed the categories in this order: Great Lakes shores, heavy industrial areas, river banks, forests, light commercial areas, agricultural land, shores of smaller lakes, wetlands, parks, and residential areas.

For transmission lines suitability, land-use categories were ranked as follows: Industrial, agricultural, forests, wetlands, shorelines, light commercial, parks, and residential.

Participants preferred several small plants to one large plant (46% to 36%).

A power plant serving local electrical needs was strongly favored over one serving distant customers.

Most participants did not favor Wisconsin's new tax law, which reduces utility tax payments to local townships in which power plants are located.

Comments on the workshops were on the whole positive, although many specific problems were also elicited.

In general, the results indicate the range of citizen concerns over power-plant siting. More than 2,000 specific concerns were generated, some unusual and some based on apparent misinformation. Regardless of their outlook, however, the participants clearly desired more information on many aspects of power-plant siting. In addition, many participants noted that one of the greatest benefits of the workshops was in stimulating communication among people with different views and backgrounds.

SECTION 3

METHODS AND OVERALL RESULTS

This section presents the complete lists and rankings of concerns from the workshops and compares overall results for each workshop.

The 215 participants were chosen to represent a cross section of occupations and interests. Table 1 provides only a general indication of this cross section, however, since most of the participants could have been placed in more than one category. For example, a farmer may also be a county board member, or a business woman may head a recreation association.

METHODS

Participants at each workshop were divided into small groups. The Janesville workshop had seven groups, Eau Claire and Stevens Point had six groups each, and Sheboygan had five groups--a total of 24 groups. At the end of the workshop each group had long lists of concerns and rankings for those concerns in each of three major categories: Biological and physical, economic and social, and land use. In addition, each group took a final vote to determine the 10 most important concerns in each of the three categories, the 30 most important concerns.

Various techniques were used to analyze the output of the 24 workshop groups. All the concerns were compiled into a master list, analyzed, and placed in categories. A second method also placed the concerns in categories, but only examined the 30 most important. The lists and rankings that are the source of all the tabulations are included in Appendices A through D.

The major reason for arranging concerns in categories was that over 2,000 concerns for power-plant siting were listed. Obviously, almost all of the concerns came up many times in many groups and were repeated within groups. Even when concerns were separated into three major categories, there was a good deal of overlap. For example, agricultural land preservation could be listed by the same group as a biological and physical concern, an economic and social concern, and a land-use concern. In other cases, items such as taxes, community costs, and consumer costs always came up in the economic and social category.

Even within a single group there were often nearly identical concerns in the same category. An example can be seen in the following list from one group, where radiation is mentioned several times:

TABLE 1. NUMBER OF WORKSHOP PARTICIPANTS BY COUNTY AND OCCUPATION OR FIELD OF INTEREST

Occupation or field of interest	County			
	Janesville	Eau Claire	Stevens Point	Sheboygan
Interested citizens/ community organizations	15	9	8	5
Government and elected officials	14	7	16	15
Farming	10	8	6	5
Business/industrial	12	7	15	6
Environmental and consumer groups	7	6	7	5
Recreation and tourism	3	-	1	2
Other	7	9	5	5
Total	68	46	58	43

Rank	Points	
3	45	Air pollution-invisible: radiation, chemicals, odor
9	16	Danger of any degree of radioactivity from any source associated with power plants
14	12	Comparison of radioactivity - coal versus nuclear
14	12	Nuclear radiation - effect on employees - cumulative and short term
16	11	Nuclear radiation - cumulative and acute on all human and animal lives
24	5	Danger to irrigation water from nuclear radiation

27 2 Danger from natural radiation

Group leaders did not encourage combining items before the voting because combining items was believed to favor the most general concerns. The purpose was to focus on the most specific concerns possible.

For analysis, however, items were combined into categories that did not imply negative or positive reactions to power plants, but merely indicated associated concerns. For example, we combined in one grouping all listings that dealt with the subject "jobs." Some participants believed that the creation of jobs was one reason for building a power plant; others feared that all the jobs would go to outsiders with no local job benefits; still others simply wanted to know what impact a power plant would have on the local employment situation.

Obviously difficulties arise when concerns are combined. The more general the grouping, the more items will be assigned to it, and the more votes it will receive. Being very specific, however, generates lists too lengthy for analysis. At least 95% of the concerns listed fit quite readily into one of the combined categories. The combined categories give an indication of the importance of that category of concern (i.e., how many points it received). Rankings based on points were done two different ways. Each person had a total of 55 points (10, 9, 8 ...1) on each vote; therefore, points received could simply be added to come up with a total vote. However, for comparisons among workshops, the votes for each category were normalized into percentages of the total workshop votes. The frequency with which a particular concern was mentioned was also included in the analysis.

A further analysis of category groupings was made by dividing the total number of points each concern received by the number of times it was listed by participants. The resulting figure, called the importance value, provides a means of determining which concerns came up only a few times, but were rated very highly when they did. The importance value also indicates which items were mentioned many times, but rarely received many votes.

RESULTS AND DISCUSSION

Comprehensive List of Concerns

A composite list of all the concerns that came up in every group in the workshops appears in Appendix A. The concerns are placed in general categories for the purpose of analysis. Priorities regarding positive, negative, and neutral effects of power-plant siting occur in each category. The number of concerns that were voted on, categorized, and analyzed in each workshop is shown in Table 2.

When the total number of concerns per workshop is divided by the number of participants, the four workshops average 9-11 concerns per person; Eau Claire participants contributed the most concerns per person. Many of the concerns are duplicates, however, within categories, within workshops, and in the various small groups.

TABLE 2. NUMBER OF CONCERNS AT EACH WORKSHOP LISTED IN EACH OF THREE GENERAL AREAS

Workshop	Number of groups	Areas of concern Biological and physical	Economic and social	Land-use	Total
Janesville	7	205	233	173	611
Eau Claire	6	180	180	134	494
Stevens Point	6	194	208	151	553
Sheboygan	5	152	169	137	458
Total		731	790	595	2,116

More economic and social concerns were listed in every workshop than either biological and physical or land-use concerns (Table 2). Unfortunately, the order in which concerns were listed did not vary from workshop to workshop; thus, it is impossible to say whether participants were more aware of economic and social concerns or whether there were other reasons for the long lists.

The 2,116 concerns were placed in 26 categories in ranked order (Table 3). Economics, water, and plant location were the top three categories when all 2,116 concerns were voted on.

The Final Vote: The 30 Most Important Concerns

The concerns and the points they received in the vote on the 30 most important concerns were categorized and analyzed similarly to the concerns and points in the vote on all listed concerns (Table 4). Importance values were included to offset the distortions caused by a concern getting a high rating only because it was mentioned many times or a low rating because it was mentioned few times. These values were calculated by dividing the number of points a concern category received by the number of times concerns in that category were listed. Categories such as agricultural land preservation, conservation, air climate, need for the plant, and health/radiation received high importance values. (Concern for future generations was not mentioned in enough groups to be included in the analysis, although it received a comparatively high number of points when it was listed.)

TABLE 3. POWER-PLANT-SITING CONCERNS RANKED ACCORDING TO 26 CATEGORIES

	Concern category	Points	Percentage of total points
1.	Economic	4,122	13.2
2.	Water	2,449	7.8
3.	Plant location	1,985	6.3
4.	Political/planning	1,953	6.2
5.	Wastes	1,794	5.7
6.	Agricultural land preservation	1,755	5.6
7.	Health and radiation	1,733	5.5
8.	Air/climate	1,552	4.9
9.	Natural environment	1,524	4.9
10.	Plant operation	1,268	4.1
11.	Growth	1,191	3.8
12.	Social/cultural	1,187	3.8
13.	Transmission lines	1,090	3.5
14.	Physical site characteristics	1,074	3.4
15.	Scenic/historic	989	3.2
16.	Safety/security	913	2.9
17.	Conservation	838	2.7
18.	Environmental pollution	718	2.3
19.	Transportation	626	2.0
20.	Recreation	652	2.0
21.	Need for plant	569	1.8
22.	Land-use change	476	1.5
23.	Noise	174	0.5
24.	Insurance	172	0.5
25.	Research	170	0.5
26.	Future generations	140	0.4

In the final vote economic concerns received the most points. Agricultural land preservation, a rather specific concern, moved up to second place, followed by water, growth, and political/planning concerns.

The Major Concerns

The ratings provided by voting all concerns and by voting on the 30 most important concerns are shown in Figure 2. The correlation between the two methods of analysis is fairly good. In the final vote (on the 30 most *important concerns)*, agricultural, growth, conservation, and safety concerns became more significant.

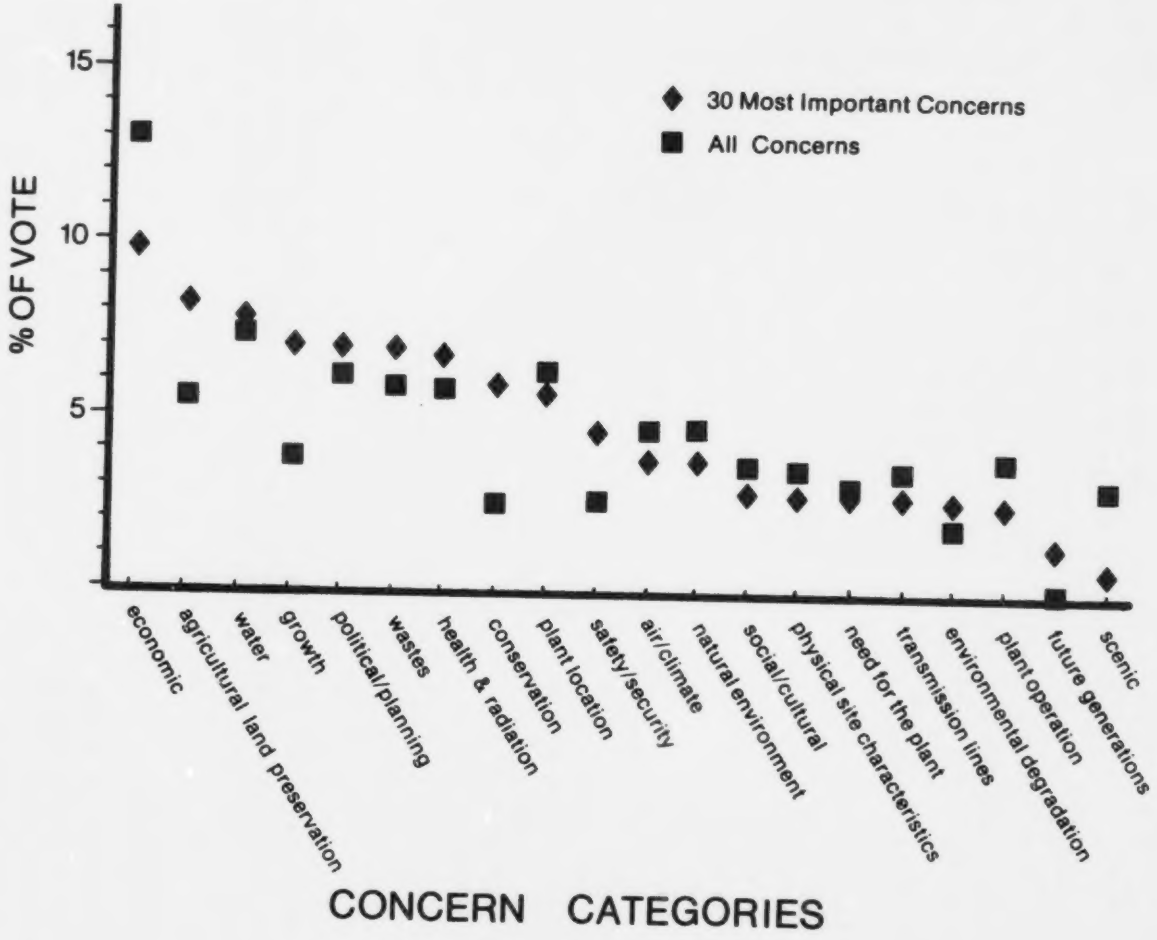

Figure 2. Category rankings provided by voting on the 30 most important concerns and all concerns.

TABLE 4. HIGHEST RANKING CATEGORIES OF SITING CONCERNS BASED ON THE FOUR WORKSHOP VOTES ON THE 30 MOST IMPORTANT CONCERNS

Concern category	Points	Percentage of total points	Times mentioned	Importance value (rank)
1. Economic	944	9.8	79	11.95 (14)
2. Agricultural land preservation	832	8.7	40	20.8 (1)
3. Water	816	8.5	51	16.0 (8)
4. Growth	688	7.2	54	12.74 (13)
5. Political/planning	679	7.1	45	15.09 (9)
6. Wastes	675	7.0	47	14.36 (10)
7. Health & radiation	660	6.9	38	17.37 (6)
8. Conservation	570	5.9	29	19.66 (2)
9. Plant location	538	5.6	42	12.81 (12)
10. Safety/security	455	4.7	27	16.85 (7)
11. Air/climate	406	4.2	22	18.45 (4)
12. Natural environment	374	3.9	35	10.69 (15)
13. Social/cultural	313	3.3	49	6.93 (19)
14. Physical site characteristics	296	3.1	28	10.60 (16)
15. Need for plant	294	3.1	16	18.38 (5)
16. Transmission lines	293	3.1	31	9.45 (18)
17. Environmental degradation	271	2.8	29	9.55 (17)
18. Plant operation	252	2.6	19	13.26 (11)
19. Future generations	149	1.6	8	18.63 (3)
20. Scenic/historic	76	0.8	15	5.07 (20)

Based on an analysis of all listed concerns and the vote on the 30 most important concerns, the major concerns (economics, agricultural land preservation, water, and growth) may be translated into money, food, water, and jobs.

Workshop Differences

The percentage of votes the various concern categories received when all the concerns were considered differed with each workshop (Figure 3). Some categories were given similar percentage ratings in the four workshops, and some were inconsistent in rank. On several issues the rating given at Janesville differed noticeably from the ratings of the other three workshops.

Comparisons among workshops revealed no consistent trends in voting response, and statistical tests failed to determine regional differences.

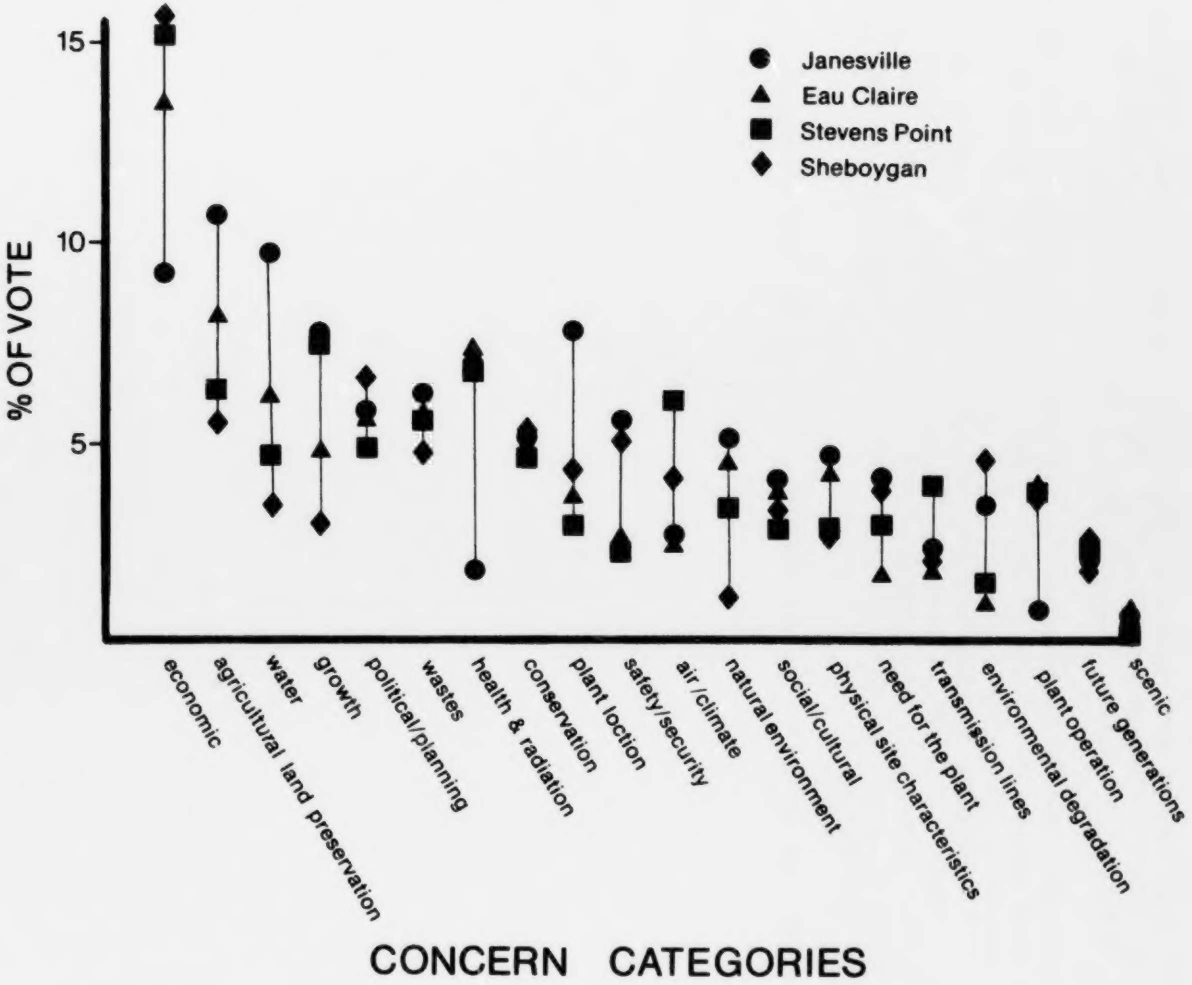

Figure 3. Workshop differences in rankings of concern categories when all concerns were considered.

Conclusions

The following conclusions can be drawn from the overall results of the four workshops:

1) The long list of power-plant-siting concerns identified many items on which participants wanted more information, regardless of whether they had positive, negative, or neutral feelings about power-plant siting.

2) The major finding of the workshops was that participants appeared to be most concerned about the effects of power-plant location on the lives of human beings. Economics (taxes, jobs, costs), food (agricultural land preservation), and water (supply and availability) were ranked highest on nearly every list. Although environmental topics, including preservation of natural areas, water pollution, scenic values, and noise, were often mentioned and occasionally given high ratings, they rarely received ratings as high as the "human" concerns.

3) No regional differences were discernible among the four workshops.

SECTION 4

SPECIFIC WORKSHOP RESULTS

JANESVILLE

The Janesville workshop on 21 April 1977 was the first and largest of the four power-plant-siting workshops. The 68 persons attending (29% of the number originally invited) represented a variety of backgrounds and interests. Participants came from 4 counties--Rock, Dane, Jefferson, and Walworth--and at least 19 towns. Most of the participants (61.8%) came from the areas of Janesville (20.5%), Beloit (16.2%), Fort Atkinson (16.2%), and Jefferson (8.8%).

The area from which workshop participants were drawn includes two existing power-generating stations: Rock River, a 279.2-MW gas, oil, and coal facility south of Janesville; and Blackhawk, a 50-MW oil, gas, and hydroelectric facility at Beloit. In addition, a large power plant is proposed for Lake Koshkonong, near the intersection of Dane, Jefferson, and Rock Counties. The original proposal for a nuclear facility was the center of much local controversy and was recently withdrawn, but the site is still under consideration for a coal-fired plant.

The Janesville workshop consisted of seven small groups, ranging in size from 8 to 12 participants. They listed a total of 614 concerns during the workshop. Complete lists of participants and concerns can be found in Appendix B.

Overall Concerns

The number of points allocated to each category of concern, the percentage of the total number of points, the times the concern category was mentioned, and the importance value of each category are shown in Table 5. The categories are listed in the order of the number of points they received. There is little relationship between the importance value of each category and the number of points it received. (The importance value equals the number of points divided by the number of times the item was mentioned.) For example, water concerns received the most points, but this category is sixth in importance value. Location concerns ranked second in number of points and 12th in importance. This category included concerns such as locating the plant away from residential areas, near users, or in industrial areas. Economic concerns ranked third in number of points, but only 14th in importance value. This ranking resulted because there were many economic concerns and each received fairly low votes. Agricultural land preservation, a relatively well-defined concern, received the highest importance value and was rated high as well.

TABLE 5. JANESVILLE WORKSHOP: RANKING OF CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON ALL CONCERNS

Concern category	Points	Percentage of total points	Times mentioned	Importance value	(rank)
1. Water	1,051	10.6	52	20.2	(6)
2. Plant location	961	9.7	63	15.3	(11)
3. Economic	954	9.2	65	14.7	(13)
4. Natural environment	781	7.9	38	20.6	(5)
5. Political/planning	778	7.9	34	22.8	(2)
6. Agricultural land preservation	611	6.2	25	24.44	(1)
7. Plant operation	566	5.7	44	12.9	(15)
8. Social/cultural	498	5.0	40	12.5	(17)
9. Air/climate	466	4.7	24	19.4	(8)
10. Waste disposal	420	4.0	23	18.26	(9)
11. Transmission lines	388	4.0	28	13.9	(14)
12. Scenic/historic	384	3.9	34	11.3	(20)
13. Conservation	356	3.6	18	19.8	(7)
14. Physical site characteristics	257	2.6	20	12.85	(16)
15. Safety/security	246	2.4	14	17.6	(10)
16. Growth	213	2.2	10	21.3	(3)
17. Land-use changes	211	2.0	14	15.1	(12)
18. Waste use	189	1.9	9	21.0	(4)
19. Health and radiation	184	1.9	15	12.3	(19)
20. Recreation	180	1.8	22	8.1	(22)
21. Noise	51	0.5	11	4.6	(24)
22. Need for plant	50	0.5	4	12.5	(17)
23. Transportation	43	0.4	7	6.1	(23)
24. Others	38	0.3	4	9.5	(21)
25. Research	9	0.09	2	4.5	(25)
26. Insurance	0	0	0	0	(26)

Based on the list of total concerns, the six areas considered most important by the Janesville participants were: (1) water concerns (sixth in importance ranking); (2) location concerns (12th in importance ranking); (3) economic concerns, including taxes, employment, community costs, and development questions (14th in importance ranking); (4) natural environment concerns (fifth in importance ranking); (5) political/planning concerns, such as the need for effective citizen participation, comprehensive regional planning, and questions about what authority actually makes the siting decision (second in importance); and (6) agricultural land preservation (first in importance).

The 30 Most Important Concerns

When only the 30 most important concerns are analyzed, four of the six highest categories in the overall vote remain in the top six in order of points received: agricultural land preservation, water (supply and pollution), economic concerns, and plant location (Table 6). Political and planning concerns move to eighth place in the number of points received, and natural environment concerns move to ninth. Taking their places are waste-disposal and waste-use concerns, which received the fourth highest number of points, and aspects of energy growth, which received the sixth most votes.

These four concern categories--economics, water, agricultural land preservation, and plant location--are very important, no matter which method of analysis is used. Other concerns, notably scenic/historic values and aspects of energy growth, were rated differently in the final vote (the 30 most important) than they were overall. Scenic/historic values, for example, received the 13th highest number of votes overall, yet in the final vote this concern was second from last in importance. Energy-growth questions, on the other hand, were rated more important in the final vote (sixth highest in number of points) than in the overall vote (17th). These differences may represent changes of opinion between votes, or they may indicate differences in the relative importance of concerns from the three discussion areas. For example, scenic/historic values were most frequently mentioned during the land-use discussion. These values may have been relatively more important when measured against other land-use concerns than when ranked with concerns from biological and physical and economic and social lists.

Intergroup Differences

Although the workshop coordinators attempted to represent all interests in each small group, the composition of lists varied among groups. Three concerns that ranked high both overall and in the vote on the 30 most important concerns were economics, agricultural land preservation, and water (Figure 4). The average percentage of of points given to water and economic concerns in the overall voting was not much different from the percentage allotted in the final vote. Agricultural land preservation, however, received 4% more of the final voting points than of the overall voting points. The proportion of votes given to these three concerns at Janesville varied from the mean by as much as 9.9%.

Conclusions

Based on the total list of concerns, water, plant location, and economics were considered the three most important concern categories by participants in the Janesville workshop. In the final vote agricultural land preservation was given top priority, followed by water and economic concerns. Plant-location concerns were ranked fifth in the final vote.

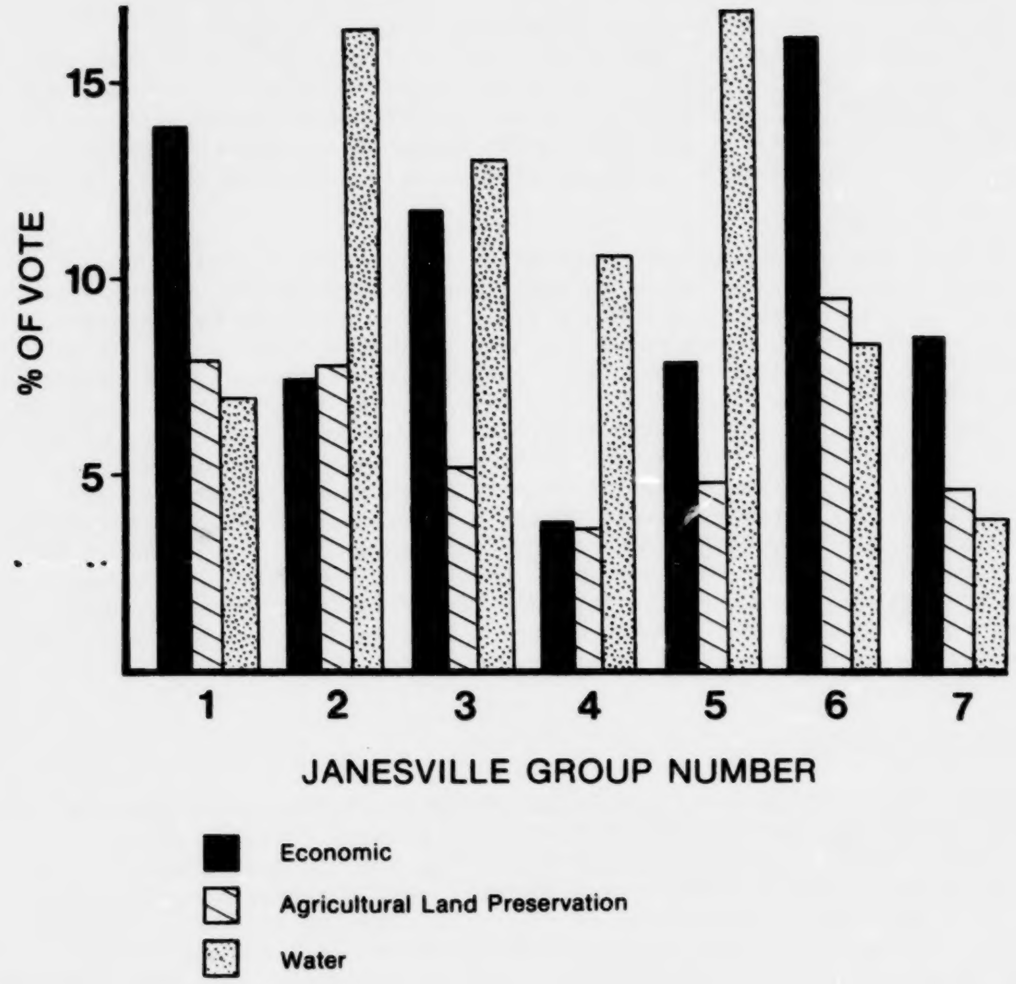

Figure 4. Percentage of the vote on the 30 most important concerns given to economics, agricultural land preservation, and water by Janesville groups.

TABLE 6. JANESVILLE WORKSHOP: HIGHEST RANKING CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON THE 30 MOST IMPORTANT CONCERNS

	Concern category	Points	Percentage of total points	Times mentioned
1.	Agricultural land preservation	322	10.2	11
2.	Water	319	10.1	23
3.	Economic	288	9.2	21
4.	Wastes	224	7.1	15
5.	Plant location	209	6.6	21
6.	Need for plant	202	6.4	13
7.	Conservation	184	6.0	11
8.	Political/planning	177	5.6	8
9.	Natural environment	157	5.0	12
10.	Plant operation	154	4.9	11
11.	Transmission lines	151	4.8	10
12.	Social/cultural	138	4.4	14
13.	Safety/security	121	3.8	5
14.	Determine energy needs	110	3.5	4
15.	Physical site characteristics	104	3.3	12
16.	Environmental pollution	86	2.7	6
17.	Air/climate	82	2.6	5
18.	Health and radiation	73	2.3	5
19.	Scenic/historic	23	0.7	4
20.	Recreation	11	0.3	2

Janesville participants ranked water, plant-location, and natural environmental concerns higher than the participants in the other three workshops ranked them. Perhaps the greater interest in the water question resulted from the emphasis placed on water, both its availability and quality, in the debate on the proposed Koshkonong power plant. Economic concerns, although ranked in the top three concern categories in the Janesville workshop, received a lower percentage of points than in any of the other workshops.

Janesville participants ranked the health-and-radiation and the growth categories lower than did the participants in the other workshops. Political and planning concerns received their highest rankings in the Janesville and Stevens Point workshops, probably because both workshops had a larger number of influential environmental and consumer-group members than the other workshops.

EAU CLAIRE

The second power-plant-siting workshop was held on 27 April 1977 at the University of Wisconsin-Eau Claire. Of the 46 invited participants attending the all-day workshop, 25 were from Eau Claire County, 14 from Dunn, 8 from Chippewa, 5 from Pepin, and 2 from Clark. The participants represented a wide variety of interests, and an attempt was made to reflect this variety in the makeup of the six small groups. At the meeting were farmers, government officials (from various agencies such as the regional planning commission, municipal public works department, health department, and county supervisor), electric utility employees, educators (a school superintendent, a vocational education teacher, and a university instructor), various professionals (a lawyer, a writer, an isurance agent, several contractors, an accountant, a musician), general workers, and members of community organizations (League of Women Voters and environmental/consumer groups).

At present much of the electric power in the area is supplied by rural electric cooperatives, municipal companies, and one private utility, Northern States Power Company. Eau Claire was chosen for a workshop because of a local controversy over the proposed Tyrone Nuclear Energy Park in Dunn County. Informational hearings before the Wisconsin Public Service Commission on the advance plans for the Tyrone project and information programs by the University of Wisconsin Extension Service on topics such as transmission lines have been well attended by local people. Northern Thunder is one of the many groups in the area that are active in the power-plant-siting issue.

Participants and lists of concerns from the Eau Claire workshop appear in Appendix C.

Overall Concerns

The major concern categories of the participants in the Eau Claire workshop were ranked according to the number of points they received (Table 7). The points each concern received as a percentage of total votes, the times the concern was mentioned, and the importance value and importance rank the concern category received are indicated in Table 7.

The overall concern list for the Eau Claire workshop is very similar to the concern list for all the workshops combined (Table 3). In both tabulations economic concerns received the most votes, followed by water concerns. Health-and-radiation and social/cultural concerns received higher ratings in the Eau Claire workshop than elsewhere.

On the basis of importance value, agricultural land preservation, which was mentioned only 16 times, was ranked as the most important concern category. Seventy-three economic concerns were mentioned, but the economic-concern category dropped to 14th in importance. Health-and-radiation concerns were second in importance, followed by environmental pollution concerns and waste concerns.

TABLE 7. EAU CLAIRE WORKSHOP: RANKING OF CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON ALL CONCERNS

Concern category	Points	Percentage of total points	Times mentioned	Importance value	(rank)
1. Economic	858	13.5	73	11.75	(14)
2. Water	516	8.0	35	14.7	(6)
3. Health and radiation	467	7.4	25	18.7	(2)
4. Plant location	393	6.2	28	14.0	(8)
5. Agricultural land preservation	354	5.6	16	22.13	(1)
6. Wastes	359	5.6	21	17.09	(4)
7. Air/climate	359	5.6	26	13.8	(9)
8. Political/planning	305	4.8	27	11.3	(16)
9. Social/cultural	304	4.7	25	12.2	(13)
10. Physical site characteristics	272	4.3	20	13.6	(10)
11. Environmental pollution	252	3.9	14	18.0	(3)
12. Transmission lines	246	3.8	27	9.1	(21)
13. Natural environment	211	3.3	23	9.2	(20)
14. Transportation	197	3.0	27	7.3	(23)
15. Need for plant	187	2.9	12	15.6	(5)
16. Safety/security	184	2.9	19	9.68	(19)
17. Plant operation	175	2.7	18	9.7	(18)
18. Growth	164	2.6	13	12.62	(12)
19. Scenic/historic	116	1.8	24	4.8	(26)
20. Recreation	91	1.4	12	7.6	(22)
21. Land-use change	86	1.3	6	14.3	(7)
22. Conservation	65	1.0	6	10.8	(17)
23. Research	70	1.0	6	11.7	(15)
24. Insurance	68	1.0	5	13.6	(10)
25. Noise	37	0.6	7	5.3	(25)
26. Future generations	14	0.2	2	7.0	(24)

The 30 Most Important Concerns

The results of the analysis of the final vote for the Eau Claire workshop are presented in Table 8. Economic concerns did not rank as high in the final vote as in the overall vote. In the final vote agricultural land preservation was the most important concern, followed by health and radiation, and plant location (Table 8). Safety/security concerns were more important in the final vote, and social/cultural concerns became less important.

TABLE 8. EAU CLAIRE WORKSHOP: HIGHEST RANKING CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON THE 30 MOST IMPORTANT CONCERNS

	Concern category	Points	Percentage of total points	Times mentioned
1.	Agricultural land preservation	189	12.3	9
2.	Health and radiation	183	12.0	14
3.	Plant location	137	7.0	16
4.	Economic	135	7.0	20
5.	Safety/security	121	6.5	9
6.	Wastes	120	6.5	9
7.	Water	120	6.5	12
8.	Physical site characteristics	114	6.0	9
9.	Political/planning	94	5.0	12
10.	Growth	92	5.0	10
11.	Conservation	75	4.0	6
12.	Need for plant	70	4.0	4
13.	Future generations	64	3.5	4
14.	Transmission lines	59	3.0	8
15.	Air/climate	56	3.0	6
16.	Natural environment	55	3.0	9
17.	Plant operation	34	2.0	4
18.	Social/cultural	26	1.4	7
19.	Research	25	1.4	2
20.	Scenic/historic	19	1.0	4

Intergroup Differences

The votes received by the various concern categories in the six workshop groups were normalized (changed to a percentage of the votes for the group) so intergroup comparisons could be made. A comparison of the percentage of points received by three concern categories--economics, agricultural land preservation, and water--in the final vote in the six Eau Claire workshop groups reveals that, as in the other workshops, the groups were not consistent in their concerns (Figure 5). Some of the differences among groups can be explained by the makeup of the membership. Groups with members of Northern Thunder were concerned about radiation. In this workshop, groups with farmers showed more concern for agricultural land and transmission-line siting.

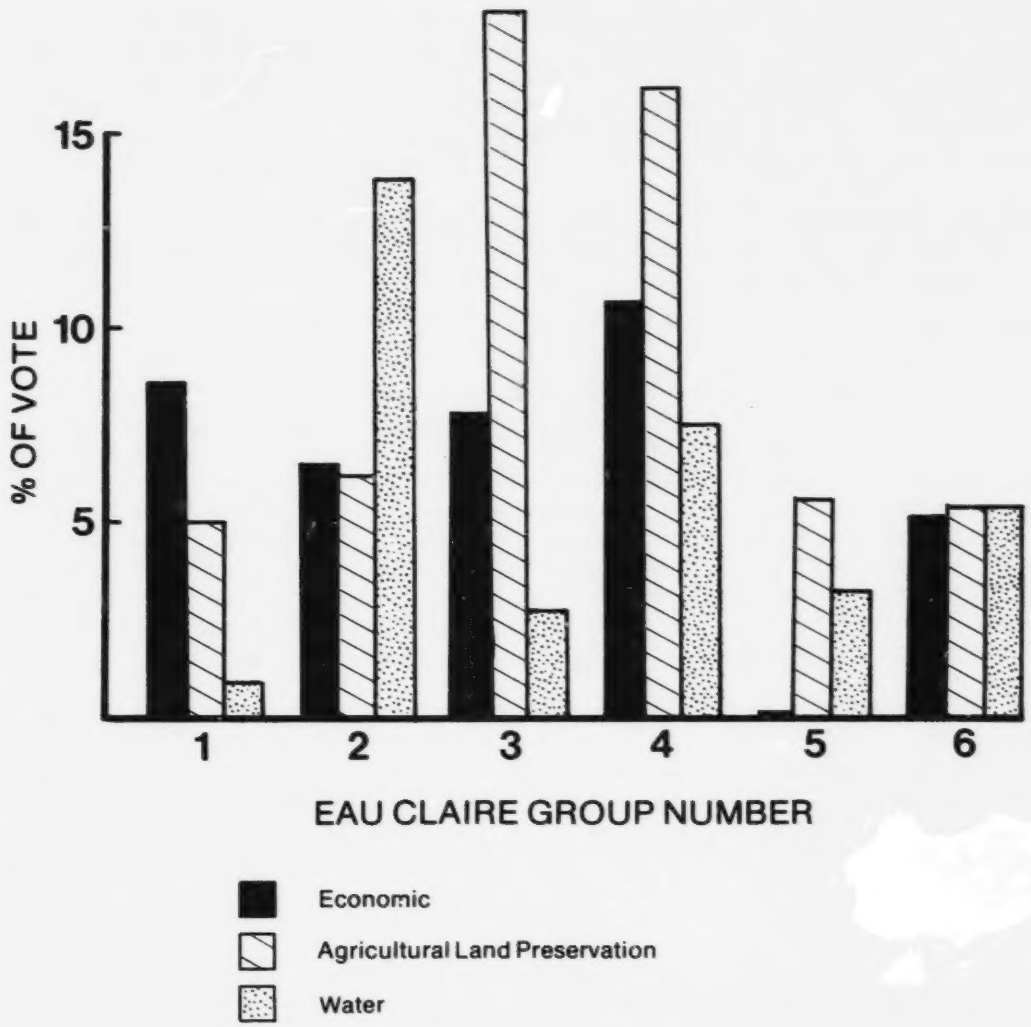

Figure 5. Percentage of the vote on the 30 most important concerns given to economic, agricultural land preservation, and water by Eau Claire groups.

Conclusions

When the 30 most important concerns were voted on, Eau Claire participants rated the questions of health and radiation and agricultural land preservation higher than economic concerns, although economic concerns ranked first when all concerns were considered. Specific concerns, such as health and radiation and agricultural land preservation, were not mentioned often, but were important when they were mentioned. Economic concerns were not as specific. The economic concerns mentioned in every group included costs of the electricity for consumers, community costs of having the power plant, and jobs. Concerns such as noise, scenic values, and relocation of people were mentioned in all groups, but rarely were rated among the top concerns.

The participants in the Eau Claire workshop, as well as those in the other workshops, had a long list of concerns, both positive and negative, about which they wanted more information.

STEVENS POINT

A power-plant-siting workshop was held in Stevens Point on 28 April 1977. The 58 Stevens Point participants came from a larger geographic area than the participants in any other workshop. In attendance were 20 residents from Wood County, 13 from Portage, 11 from Juneau, 10 from Marathon, and 3 from Adams. In this five-county area, as in the other workshop areas, there is a great deal of interest in power-plant siting. Presently, power is provided by 15 hydroelectric generating stations along the Wisconsin River, as well as a 135-MW coal-fired power plant in Marathon County. Construction of two power plants has been proposed in the next 10 years: a nuclear plant for Wood County and a coal-fired plant for either Adams or Juneau County.

The participants represented a broad spectrum of interests. Two groups in particular had a special interest in nuclear power-plant-siting questions: L.A.N.D. (League Against Nuclear Dangers), opponents of nuclear siting, and S.A.F.E. (Secure Adequate Future Energy), proponents of nuclear siting. Participants and the concern lists generated by the six Stevens Point groups are found in Appendix D.

Overall Concerns

In Table 9 the major concern categories of the participants in the Stevens Point workshop are ranked according to the number of points they received in the overall vote. Also presented are the percentage of total votes each category received, the number of times the category was mentioned, and the importance value and rank for the category.

The Stevens Point concern list is very similar to the overall list for all the workshops (Table 3). In both tabulations economic concerns were mentioned the most frequently and received the most votes. Concerns for agricultural land preservation, wastes (disposal and use), air/climate, and social/cultural concerns also kept their rank in the two lists. Concerns bearing on political/planning, health and radiation, growth, and general

TABLE 9. STEVENS POINT WORKSHOP: RANKING OF CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON ALL CONCERNS

Concern category	Points	Percentage of total points	Times mentioned	Importance value	(rank)
1. Economic	1401	15.2	87	16.1	(12)
2. Political/planning	688	7.5	41	16.78	(9)
3. Health and radiation	661	7.1	40	16.53	(11)
4. Growth	572	6.2	29	19.7	(5)
5. Water	568	6.2	33	17.2	(8)
6. Agricultural land preservation	511	5.5	23	22.2	(1)
7. Wastes	449	4.8	21	21.4	(2)
8. Plant location	427	4.6	29	14.7	(15)
9. Air/climate	422	4.6	23	18.34	(7)
10. Environmental pollution	365	4.0	19	19.2	(6)
11. Safety/security	363	4.0	23	15.78	(13)
12. Social/cultural	312	3.2	26	12.0	(21)
13. Scenic/historic	266	2.9	18	14.78	(14)
14. Physical site characteristics	266	2.9	19	14.0	(16)
15. Natural environment	264	2.9	26	10.15	(24)
16. Transmission lines	254	2.8	21	12.09	(20)
17. Transportation	233	2.5	17	12.94	(19)
18. Plant operation	224	2.4	17	13.17	(17)
19. Need for plant	217	2.4	11	19.72	(4)
20. Recreation	207	2.2	18	11.5	(22)
21. Conservation	141	1.5	7	20.14	(3)
22. Land-use changes	133	1.4	8	16.6	(10)
23. Research	91	0.9	7	13.0	(18)
24. Future generations	68	0.7	6	11.3	(23)
25. Noise	55	0.5	7	7.85	(25)
26. Insurance	53	0.5	8	6.63	(26)

environmental pollution ranked higher at Stevens Point than at any of the other workshops. Water and plant-location concerns were lower for the Stevens Point workshop than for the overall vote of the four workshops.

Items such as taxes, agricultural land preservation, wastes, consumer costs, and conservation received the highest importance values. Overall, economic concerns were mentioned often, but did not receive as high an importance ranking as more specific concerns such as taxes and agricultural land preservation.

The 30 Most Important Concerns

The results of the analysis of the final vote (the 30 most important concerns) for the Stevens Point workshop are presented in Table 10. In the final vote water concerns became more important, and economic concerns dropped in rank. In general, the rankings of concerns at Stevens Point correspond closely to the combined results from all four workshops (Table 3, Table 4).

TABLE 10. STEVENS POINT WORKSHOP: HIGHEST RANKING CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON THE 30 MOST IMPORTANT CONCERNS

	Concern category	Points	Percentage of total points	Times mentioned
1.	Water	282	9.8	12
2.	Political/planning	268	9.2	18
3.	Growth	267	9.2	17
4.	Economic	259	9.0	18
5.	Air/climate	216	7.0	9
6.	Health and radiation	186	6.4	6
7.	Physical site characteristics	184	6.4	14
8.	Agricultural land preservation	176	6.0	10
9.	Safety/security	173	6.0	9
10.	Wastes	163	5.6	10
11.	Plant location	135	5.0	10
12.	Conservation	121	4.0	11
13.	Social/cultural	100	3.5	12
14.	Natural environment	80	3.0	6
15.	Need for plant	79	3.0	4
16.	Transmission lines	44	2.2	7
17.	Future generations	38	1.5	1
18.	Recreation	26	1.3	5
19.	Scenic/historic	24	0.8	3
20.	Plant operation	17	0.7	1
21.	Transportation	14	0.5	2
22.	Other	4	0.5	1

Intergroup Differences

The votes received by the various concern categories in the six Stevens Point workshop groups were normalized (changed to a percentage of the total votes for the group) so that intergroup comparisons could be made. In the final vote the groups were not consistent in their concerns (Figure 6), probably because it was not possible to get a balance of interests in each

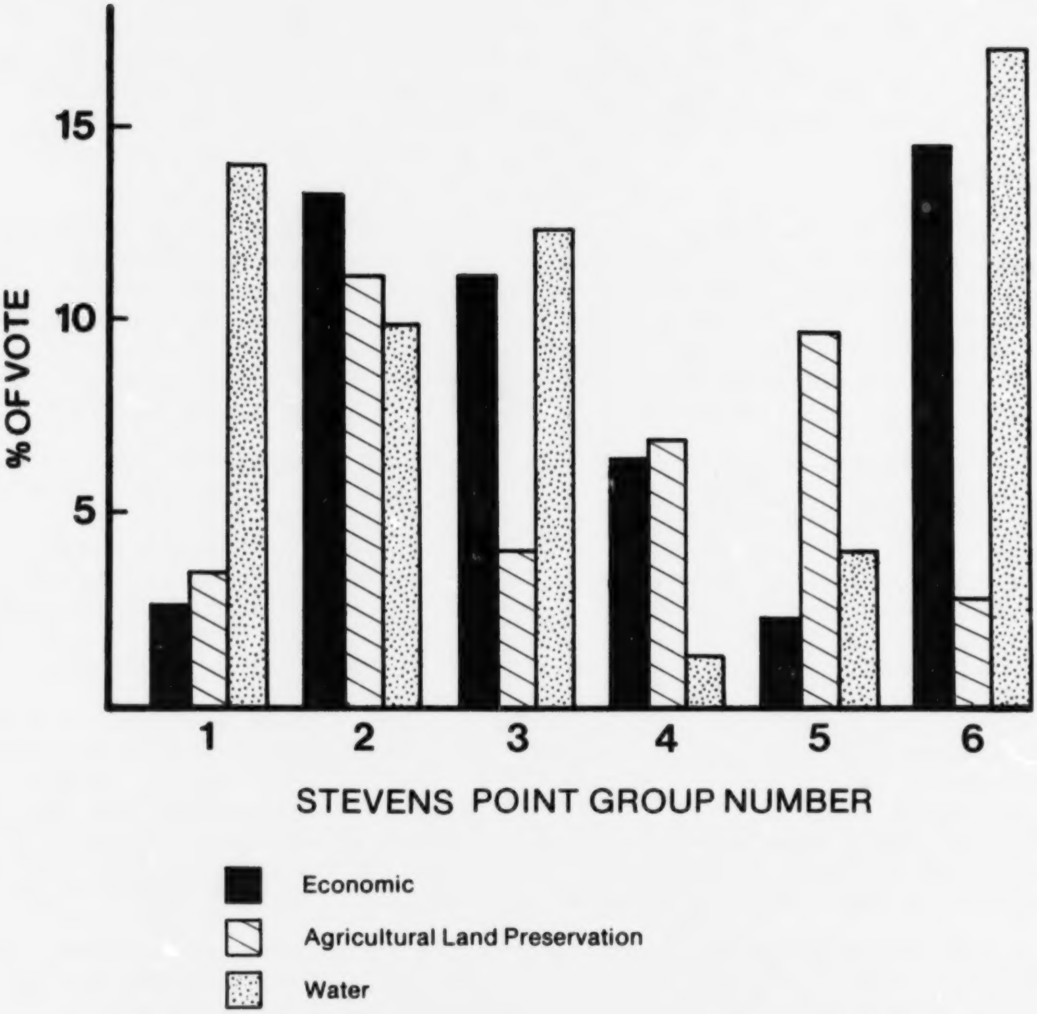

Figure 6. Percentage of the vote on the 30 most important concerns given to economic, agricultural land preservation, and water by Stevens Point groups.

group. Differences among groups were particularly noticeable in categories such as health and radiation and conservation. Almost all the votes were contributed by one group, a group which had more members of L.A.N.D. than other groups.

Group composition, however, does not always account for the differences in the group votes. The number of farmers in a group did not seem to affect the concern for agricultural land preservation. In fact, the most heavily business-industrial-urban groups gave this category the highest priority. On the other hand, questions such as water supply and availability seemed to receive more emphasis in groups with more farmers.

Conclusions

As in the other workshops, the categories mentioned most often and ranked as most important in the Stevens Point workshop were those concerned with the effect of power-plant location on the lives of human beings (for example, economics, jobs, growth, human health and radiation effects, and water supply and availability). Items such as water pollution, preservation of natural areas, scenic values, land-use changes, and other environmental concerns were mentioned often, but in most cases did not receive large numbers of votes.

Several concern categories were rated higher at Stevens Point than at the other workshops, namely political/planning, air/climate, and growth. In the political/planning sphere much participant skepticism was evident: "Do engineers know what they are talking about? Are the real facts presented? What are the differences between actual needs and utility projects?" Growth concerns sometimes favored power-plant construction (more electricity equals more jobs; more electricity equals more power for irrigation which equals more food) and sometimes opposed new power plants (growth unsuited for an area).

Rankings at the Stevens Point workshop for agricultural land preservation, waste disposal, conservation, transmission lines, and the natural environment were somewhat lower than at other workshops. Agricultural concerns were expressed most often in terms of water and electric-power availability for irrigating crops. Impacts on the area's unique crops--potatoes, cranberries, and dairy products--were mentioned. Many of the agricultural concerns were influenced by the drought the area had been experiencing.

The Stevens Point participants compiled the longest list of research needs, including more factual studies on biological effects; comparisons of radiation levels from coal, nuclear, geothermal, and solar generation; explanation of general radiation versus power-plant radiation; facts on air and water monitoring; and independent monitoring. Participants also questioned how to address the necessary trade-offs for power-plant siting, how to interpret environmental impact statements, and how to differentiate between emotional and factual studies.

Stevens Point workshop participants brought up moral issues as well as specific concerns: responsibilities to future generations, worldwide responsibilities, questions of conservation and American freedom, and questions of nuclear security and freedoms.

The Stevens Point workshop participants clearly wanted to know more about many power-plant-siting concerns, regardless of whether they felt negative, positive, or neutral about power plants.

SHEBOYGAN

The fourth power-plant-siting workshop was held in Sheboygan on 3 May 1977. The 43 workshop participants came from Sheboygan (29), Manitowoc (9), and Kewaunee (3) Counties, all eastern Wisconsin counties bordering Lake Michigan. Two participants were from outside the workshop area.

Power-plant-siting interest in the area is high. In some ways more participants in the Sheboygan workshop were familiar with power-plant siting based on their actual experiences than in the other workshops. The area has two nuclear power plants, Point Beach and Kewaunee, on the shores of Lake Michigan, as well as the 500-MW coal-fired plant in Sheboygan, which is being expanded. The Sheboygan workshop area also includes a proposed nuclear site, Haven, in Sheboygan County.

The workshop participants included elected officials (6); government employees, including planners, a forester, and a civil defense worker (8); members of community organizations (8); members of environmental and consumer groups (8); farmers (4); business men and women, including utility employees (3); people interested in recreation and tourism and other professionals, including educators (4). As in the other workshop locations, the Sheboygan area has active groups with a special interest in power-plant siting, such as the Safe Haven group.

Overall Concerns

The major concern categories developed in the Sheboygan workshop were ranked according to the number of points they received (Table 11). The participants were more concerned about economic questions than were the participants in other workshops. These concerns were mentioned 70 times and accounted for over 15% of the total concerns by points. More weight was also given to health and radiation, waste use and disposal, air and climate, plant operation. and physical site characteristics than in the other workshops. Overall, participants in the Sheboygan workshop showed less concern for water, political/planning, and plant location. In the Sheboygan workshop the need for the power plant, conservation, agricultural land preservation, waste use and disposal, and taxes received high importance values. Also rated important were Lake Michigan and more general water concerns.

The 30 Most Important Concerns

The final vote (the 30 most important concerns) for the Sheboygan workshop (Table 12) was generally consistent with the rankings given to all concerns (Table 11). The most noticeable difference is that conservation became very important (second only to economic concerns) in the final vote. Growth, natural environmental, and agricultural land preservation also became more important in the final vote. On the other hand, water, plant-operation, and physical site concerns dropped in importance in the final vote.

TABLE 11. SHEBOYGAN WORKSHOP: RANKING OF CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON ALL CONCERNS

	Concern category	Points	Percentage of total points	Times mentioned	Importance value	(rank)
1.	Economic	909	15.6	70	12.98	(15)
2.	Health and radiation	412	7.2	26	16.1	(8)
3.	Wastes	377	6.5	20	18.85	(4)
4.	Water	314	5.3	25	16.56	(6)
5.	Air/climate	305	5.2	20	15.25	(11)
6.	Plant operation	303	5.2	26	11.65	(18)
7.	Agricultural land preservation	279	4.8	13	21.46	(3)
8.	Physical site characteristics	279	4.8	17	16.4	(7)
9.	Conservation	276	4.8	11	25.09	(2)
10.	Natural environment	268	4.6	23	11.65	(17)
11.	Growth	242	4.1	18	13.4	(14)
12.	Scenic/historic	223	3.8	25	8.92	(21)
13.	Plant location	204	3.5	13	15.69	(9)
14.	Transmission lines	202	3.5	13	15.54	(10)
15.	Environmental pollution	202	3.5	14	14.43	(13)
16.	Political/planning	182	3.0	24	7.58	(23)
17.	Recreation	174	2.9	17	10.24	(19)
18.	Transportation	153	2.6	18	8.5	(22)
19.	Safety/security	120	2.1	10	12.0	(16)
20.	Need for plant	115	1.9	4	28.75	(1)
21.	Social/cultural	73	1.2	11	6.64	(25)
22.	Future generations	58	0.9	4	14.5	(12)
23.	Insurance	51	0.8	5	10.2	(20)
24.	Lake Michigan	50	0.8	3	16.67	(5)
25.	Land-use changes	46	0.7	7	6.57	(24)

Intergroup Differences

The votes received by the various concerns categories in the five Sheboygan workshop groups were normalized (changed to a percentage of the total votes for the group) so that intergroup comparisons could be made. The groups' final voting records were compared for three concern categories--economics, agricultural land preservation, and water--the procedure followed in the analysis of all the workshop results. The groups were not consistent in their concerns (Figure 7); as expected, identical interests in each group cannot be obtained.

TABLE 12. SHEBOYGAN WORKSHOP: HIGHEST RANKING CATEGORIES OF SITING CONCERNS BASED ON THE VOTE ON THE 30 MOST IMPORTANT CONCERNS

	Concern category	Points	Percentage of total points	Times mentioned
1.	Economic	262	14.5	20
2.	Conservation	190	10.5	8
3.	Health and radiation	174	9.6	9
4.	Wastes	168	9.0	13
5.	Agricultural land preservation	144	8.0	10
6.	Growth	127	7.0	14
7.	Water	95	5.0	8
8.	Natural environment	82	4.5	8
9.	Plant location	57	3.0	4
10.	Air/climate	52	2.8	5
11.	Plant operation	47	2.6	3
12.	Future generations	47	2.6	3
13.	Safety/security	40	2.2	4
14.	Transmission lines	39	2.0	6
15.	Political/planning	37	2.0	7
16.	Need for plant	35	2.0	4
17.	Recreation	30	1.6	7
18.	Social/cultural	19	0.9	5
19.	Lake Michigan	16	0.8	3
20.	Insurance	8	0.4	1
21.	Scenic/historic	8	0.4	2

Four of the five Sheboygan groups were most concerned about economic questions (Figure 7). In four groups agricultural concerns received a high percentage of votes. Only two groups, however, were responsible for the high rating given to water. For some other concerns, such as conservation, health and radiation, and wastes, the Sheboygan groups were much more consistent.

Conclusions

Economic concerns, both for and against power-plant construction, received a higher rating at the Sheboygan workshop than at any other. Once again, those items were mentioned and ranked highest which concerned the effects of power-plant location on the lives of human beings (economics, jobs, taxes, growth, and human health and radiation).

The presence of Lake Michigan had a significant effect on regional power-plant-siting concerns. It may seem inconsistent that half the Sheboygan

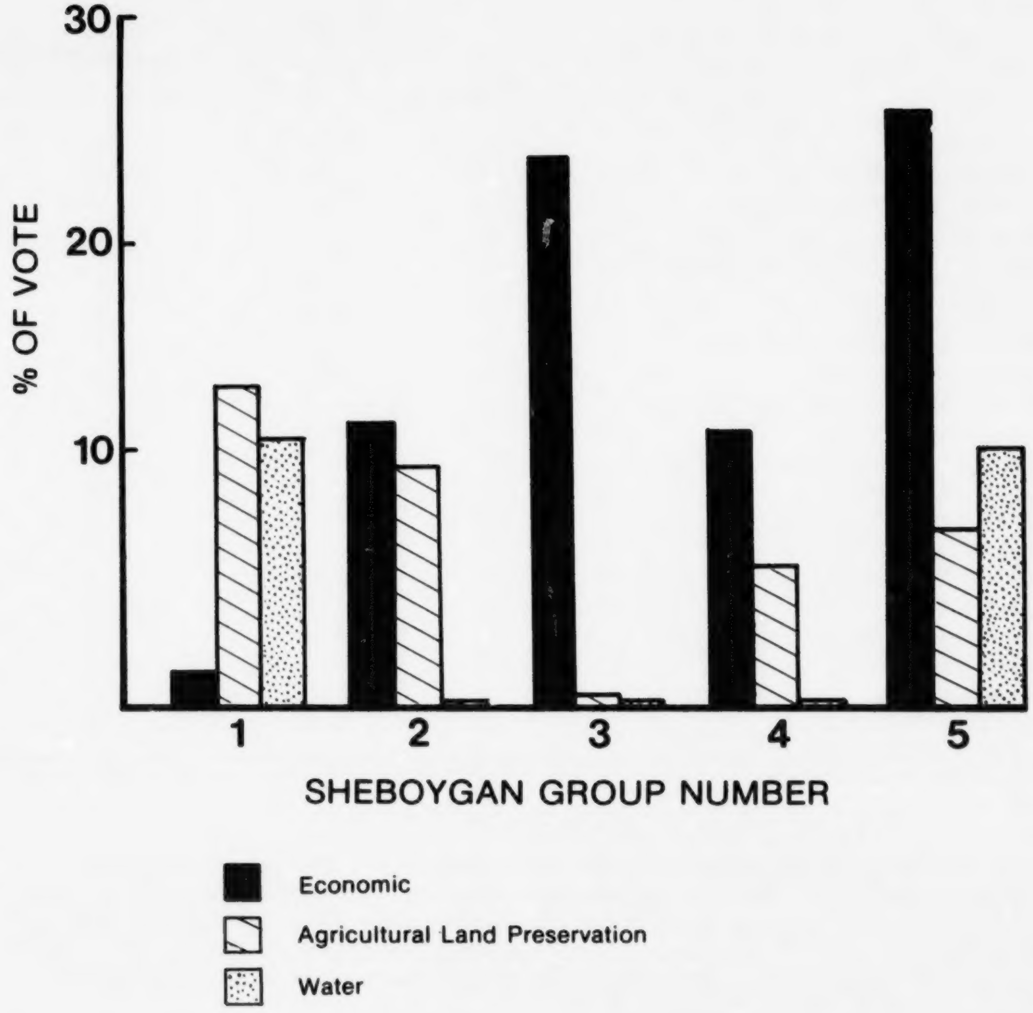

Figure 7. Percentage of the vote on the 30 most important concerns given to economic, agricultural land preservation, and water by Sheboygan groups.

participants rated the Great Lakes as suitable sites for power-plant siting (as reported in Section 3), and yet water and plant-location concerns were lower overall in the Sheboygan workshop. The explanation is that Sheboygan participants were very concerned about water and Lake Michigan. Their water concerns were different and not as great in number, but certainly rated high in importance. There was little concern about water supply and availability. Instead, the water concerns focused on water quality and impacts on Lake Michigan. Concern was not so much addressed to one site as to the effect on the whole lake system: for example, the cumulative effects of several power-plant sites, the likelihood of the dispersion of radiation contamination by the Great Lakes, and changes in longshore currents. Concern for the area's special Great Lakes resource also came up in several different categories: Stability of bluffs, preservation of dunes, and preservation of historic shoreline properties.

Because of the number of power plants in the area and the participants' familiarity with them, many of the Sheboygan concerns, both positive and negative, were more specific than those of other workshops. These included such issues as the good fishing in the power-plant outflow, public access to the lake, educational and tourist attraction of the site, the planning for placement of a power plant, sewage treatment, and industrial discharges. Sheboygan workshop participants readily brought up items from their own experience: Traffic tie-ups in Sheboygan from coal shipments, loss of land, the need for relocating roads away from nuclear plants, and the need for better fire and police protection.

Sheboygan participants also had many concerns similar to those of other workshop participants. The question of nuclear entombment came up several times. Participants were also concerned about keeping the public informed, justifying power plants on the basis of third-party projections of demand, and understanding all the statistics (plume dimensions, size, velocities, etc.) in environmental impact statements. They also sought information on how to make choices for decisionmaking and what resources are available for verifying environmental impact statements.

In spite of their relative familiarity with power plants, Sheboygan participants listed many concerns on which they wished more information.

SECTION 5

THE SURVEY

The purpose of the workshops was to elicit the concerns, attitudes, and values of invited participants on power-plant siting. Project researchers and Public Service Commission officials were specifically interested in what choices participants would make between various land-use categories (e.g., industrial areas, agricultural areas, natural areas) for siting power plants and transmission lines. Also of interest were participants' reactions to the supplying of power by a local power plant to other areas in the state, the use of one large or several smaller plants to meet approximately the same energy needs, and general reactions to Wisconsin tax laws. Since it was impossible to address all of these questions by using the small-group method, a questionnaire was designed for use in a survey.

Survey results from the four workshops and from different interest groups were compared and one of the original goals of the project thus was partially achieved. In addition, the survey showed that no one interest or age group was over-represented or omitted at the workshops. Finally, filling out the questionnaire gave participants the opportunity to comment on their experiences at the workshop.

METHODS

The surveys were distributed to workshop participants at registration, and completed surveys were returned by mail after the workshop. One hundred and ninety participants completed the surveys. A sample survey is found in Appendix F.

The survey was modified slightly after the first workshop. Participants felt that they could not make siting choices for both coal and nuclear plants at one time. Thus, for the remaining three workshops this question was repeated, once for a nuclear plant and once for a coal-fired plant.

The surveys were analyzed using STATJOB programs at the Madison Academic Computing Center.

RESULTS

The Participants

The participants represented a broad spectrum of age groups and professional backgrounds. Of those who completed the questionnaire, 26.7% were age 21-35, 28.3% were 36-50 years old, and 45% were 50 or older. Of these respondents 13.2% were farmers, 14.9% were business people, 11% were educators, 8.2% were government officials or employees, 14.3% represented other professions (such as doctors, historians, and artists), and 38.1% were employed in other fields, were housewives, or were retired. The percentage of government officials identified by the survey was much lower than the actual percentage among the participants, a possibly because government workers primarily identified themselves by occupation and not as government employees.

Workshop members tended to be long-term residents who were very active in their communities: 64.7% had lived in their current home area for more than 10 years, 56.3% were currently members of civic organizations, and 42.1% belonged to professional groups. In addition, an average of 31.3% participated in other types of organizations (agricultural, environmental, business, political, and recreational). A high proportion reported that they lived within 5 miles of an existing plant (27.9%), or that they could see a power plant (12.6%) or high-voltage transmission lines (35.3%) from where they lived.

Opinions About Plant Size and Location

The response of workshop participants tended to be much more favorable toward the location of a plant in their area if that plant would supply energy locally, rather than to other parts of the state (Table 13).

To supply the same energy demand, several smaller plants were judged better than one large plant by 45.8% of the participants. One large power plant was preferred by 36.3%, and 10% felt that one large plant was about the same as several smaller plants.

About half (51.2%) answered that the new tax laws had changed the way they felt toward the construction of a power plant in their community. Of these, 76% reported that their feelings had become more negative.

Land-Use Ratings

Participants were asked to rate several land-use categories for their suitability for a power plant. People at the Janesville workshop considered both coal and nuclear plants in one rating, but the other workshops rated suitabilities for coal and nuclear facilities separately. However, since no significant difference emerged between the combined and separate ratings, one set of ratings (combined coal/nuclear for Janesville, and nuclear for the other workshops) is presented in Table 14. (One exception was that Great Lakes shorelines were rated as somewhat more suitable for nuclear than for coal-fired plants.)

TABLE 13: REACTION OF PARTICIPANTS AS DETERMINED BY SURVEY TO THE ESTABLISHMENT OF A LOCAL POWER PLANT TO SERVE (1) LOCAL OR (2) NONLOCAL ENERGY NEEDS

	Reaction (percentage of respondents)		
Area of energy use	Negative	Neutral	Positive
(1) Power plant supplying energy locally	19.2	10.7	70.1
(2) Power plant supplying energy to other parts of the state	47.5	15.7	36.7

TABLE 14: RATING BY WORKSHOP PARTICIPANTS OF LAND-USE CATEGORIES FOR USE AS POWER-PLANT SITES

	Rating (percentage of respondents)		
Land-use category	Poor	Good	No opinion
On Great Lakes shores	36.35	57.2	5.95
Near Great Lakes shores	44.7	51.5	2.65
In/near heavy industrial areas	44.7	51.7	2.65
On/near river banks	47.25	47.15	6.1
In/near forests	47.05	46.5	6.45
In/near light commercial areas	53.6	36.6	7.7
In/near agricultural land	57.8	36.2	6.0
On/near shores of smaller lakes	65.4	25.3	9.4
In/near wetlands	69.25	21.95	8.8
Near parks	75.7	13.0	11.3
In/near residential areas	90.85	5.35	3.75

The shorelines of the Great Lakes and industrial areas were clearly felt to be the most suitable sites for power-generating facilities. These choices reflect the strong concerns over sufficient water supply and the use of existing facilities, which were mentioned frequently during workshop discussions. River banks, again reflecting the need for water, were ranked next in suitability. Agricultural land was ranked less suitable than light commercial areas and forests. Shores of smaller lakes and wetlands were next in suitability. Parks and residential areas were definitely considered the poorest locations for power plants.

The survey also ranked land-use types for their suitability for high-voltage transmission lines (Table 15). Industrial areas received the most votes (by a margin of 25.5%). Interestingly enough, agricultural land received the second highest number of votes for most suitable and the third highest number of votes for least suitable. This apparent split of sentiment may represent a difference of opinion between farmers and other workshop participants (Table 16). Wetlands, forests, and lakeshores, in that order, ranked next in votes for most suitable areas. None of these categories showed either a positive or negative trend in rankings; that is, each of the eight possible ranking positions received approximately the same percentage of votes. The category that was ranked sixth in suitability for transmission lines--commercial areas--received a higher percentage of votes for second most suitable than did any other land-use type. It may be, therefore, that commercial areas are actually felt to be more suitable than wetlands, forests, and lakeshores. Once again, parks and residential areas were overwhelmingly voted least suitable; only 21.2% of the participants placed residential areas as one of the four most suitable sites, and 42.8% placed them as least suitable.

TABLE 15: RANKING BY WORKSHOP PARTICIPANTS OF LAND-USE CATEGORIES FOR USE AS TRANSMISSION-LINE SITES

Land-use type	Ranking (percentage of respondents)							
	1	2	3	4	5	6	7	8
Industrial	46.6	14.8	4.5	6.2	10.8	7.4	6.3	3.4
Agricultural land	21.1	7.4	18.3	13.1	12.0	6.8	6.3	14.8
Forests	10.8	14.8	14.8	14.8	5.7	16.0	11.4	11.4
Wetlands	11.0	11.6	12.1	14.4	12.1	13.9	11.6	13.3
Shorelines	7.6	5.8	11.1	18.1	14.0	14.6	14.6	14.0
Light commercial	3.4	39.2	17.6	9.0	10.2	9.0	8.5	2.8
Parks	1.1	2.3	4.7	10.5	24.6	17.5	21.0	18.1
Residential	0.005	0.01	12.6	8.6	4.6	10.3	18.9	42.8

TABLE 16: EFFECT OF OCCUPATION OF RESPONDENTS ON THEIR RANKING OF THE USE OF AGRICULTURAL LAND FOR TRANSMISSION LINES

Occupational group	Ranking (percentage of respondents)						
	Most suitable 1	2	3	4	5	6	Least suitable 7
Farmers	4	8.7	8.7	18.3	26	0	34.8
Business people	9.0	22.7	27.3	22.7	9.0	4.5	4.5
Educators	0	10.0	20.0	5.0	10.0	25.0	20.0
Government workers and other	7.3	19.5	22.0	12.2	12.2	14.6	7.3

In summary, industrial areas were viewed favorably as sites for power plants and lines, whereas residential areas and parks were viewed very unfavorably for this purpose. The relative ranking of the other land-use categories is not as clearly defined.

Comparison of Survey Results Among Workshops

As was the case with the lists of concerns discussed in the previous section, no large differences in responses to questions or in patterns of answers were found among workshops. However, some small differences did emerge in responses to individual questions. The workshops differed in some ways in their ranking of suitability of various land-use categories for nuclear plants. Janesville participants were more likely to rank industrial areas as most suitable, and the Sheboygan workshop rated shorelines as the most suitable. The workshops also differed in the distance participants lived from a plant and whether or not they could see a plant from where they lived. More Sheboygan and Eau Claire participants reported that they lived within 5 miles of a plant, probably because of the Edgewater plant in Sheboygan and the small rural cooperatives scattered throughout the Eau Claire area. More Sheboygan people (31.58%) also reported that they could see a plant from where they lived.

Comparison of Survey Results Among Occupational Groups

Overall, differences in attitudes between different occupational groups were not statistically significant. However, there were some interesting differences between specific occupational groups on particular questions. More farmers (45.8% of those at the workshops) than any other group reported that they could see high-voltage transmission lines from where they lived.

Farmers were also more likely to rate agricultural land as very unsuitable for high-voltage transmission lines. Many (45.8%) of the farmers rated agricultural land as the least suitable area for transmission lines, compared to an average of 13% for all other occupational groups. In contrast, 30.4% of business people rated agricultural land as the most suitable for transmission lines. Farmers were also likely to rank the suitability of agricultural land for nuclear plants lower than did other groups.

SECTION 6

COMMENTS ON THE WORKSHOPS

Participants in all four workshops were asked to give an overall rating of the workshop; a tabulation of their votes is given in Table 17.

Participants gave quite high ratings to the power-plant-siting workshops: 82.5% judged their experience as "good" or "excellent," while 14.4% rated the workshops as "fair" and 0.03& as "poor."

TABLE 17. RATING OF THE WORKSHOPS BY PARTICIPANTS

	Rating (number of votes)				
Workshop	NO COMMENT	POOR	FAIR	GOOD	EXCELLENT
Janesville	10	-	7	35	9
Eau Claire	5	1	6	21	6
Stevens Point	4	2	9	21	16
Sheboygan	3	2	2	17	14

The participants were also asked to comment on any aspect of the workshop or concerns addressed. Many of the participants (51%) took advantage of the space provided in the survey for their comments. These comments, compiled from all four workshops, are helpful to those interested in power-plant-siting criteria and to those considering similar workshops. The comments (presented in Appendix G), generally speak for themselves and bring out many of the difficulties of the workshops. Remarks most frequently pertained to (1) complaints with workshop scheduling; (2) time constraints; and (3) problems with the format, such as general concerns getting more votes than specific ones and some concerns overlapping others.

In choosing the locations, dates, participants, format, and even methods of presenting the results, obviously choices had to be made. Some decisions were based on experience with similar programs and some were based on recommendations; some techniques changed with experience. For example, after the Janesville workshop, the survey was changed slightly and group leaders' explanations of voting procedures were made more explicit. The value of the workshops depends on how useful the findings prove to be in decisions on the siting of power plants. One of the primary advantages of the workshops was that they provided an opportunity for people of different backgrounds, interests, and experiences to examine together a controversial and frustrating issue.

The energy, enthusiasm, and dedication of the workshop participants were greatly appreciated. Their willingness to give their time helped to make public involvement in energy and natural-resource issues a reality.

APPENDIX A

COMPREHENSIVE LIST OF POWER-PLANT-SITING CONCERNS

ECONOMIC

Taxes

Tax base - increased tax base; added tax revenue to municipality; taxes paid by power plants; question of the loss of taxable land; added tax revenue to municipality;

Tax structure - unfair tax structure;

Tax distribution - distribution of utility tax; inequitable tax redistribution;

Tax rate - increased taxes due to influx of population when a plant is built; increased local property taxes to support increased services;

Taxes and local government - change tax bill to benefit local government; greater tax return to local government -- first 5 years; taxation of the utility should be adequate to compensate the local government units for the increased services (roads, police, etc.) during plant construction; better tax returns to local government to dull local opposition.

Consumer costs

Cost of electricity - cost to consumer; energy affordable to all; possible decrease in electric costs; costs of electricity particularly as it affects those on fixed incomes or those with special needs; ratepayers should not have to absorb costs of siting changes; electric rates should reflect true cost; increasing costs if more power not produced;

Costs and construction - cost of construction; costs per life of plant; construction time and costs;

Financing - capital loans; need for information on the type of financing available; competition for capital investment dollars.

Community costs

Housing - need for housing in local area; mobile home park proliferation;

Municipal services - cost of municipal services, fire, police; sewers for temporary construction workers; desire for federal government loans (low interest) for local government cost for services;

Community services - increased expenses to community: roads, schools, hospitals, and social service agencies.

Fuels

Cost - choose fuel type for least cost; current and future fuel cost; need to know cost of radioactive waste disposal; going into plutonium economy, domestic vs. foreign leasing of national forests for uranium mining;

Availability - depletion of non-renewable resources; availability of uranium; priorities for use of coal; priority for use of oil;

Type - use of high-sulfur coal; access to low-sulfur fuel; cost advantages and flexibility of nuclear power.

Land values

Cost - price of land; cost of land for site;

Changes in land values - (up/down); accelerates increase in land value; devaluation of surrounding homes; effect on property values, both inflation of value and detriment resulting from increased taxes; keep land purchases secret to avoid speculation.

Jobs

Number - number of jobs during construction/operation; increase in employment; reduction in jobs caused by automation of newer power plants; labor force generated -- both primary and secondary; employment from acquisition of raw materials (miners, truckers, etc.); more work in area;

Jobs and energy - need to provide energy for employment of citizens; employment and adequate energy independence;

Local or outside labor force - availability of skilled personnel; regional employment; need to know the kind of training necessary; need to know if employees will be drawn from local area;

Jobs and wages - need to know the salary scale; effect on local wage scale.

Costs versus benefits

Cost versus benefits - acceptable cost/benefit ratio;

Growth - healthy economic growth versus minimal economic growth; beneficial economic impact on business; economic ceiling on growth;

Costs - prediction of future energy costs; nuclear plants are too expensive; costs for various types of plants; economic effect on current energy providers; economic effect after construction workers leave; need to know if construction of new plant is necessary when additional power could be supplied by upgrading existing units;

Economic/ecological tradeoffs - costs of pollution control devices; economics of upholding high environmental standards for coal plants;

Profits - only the company and employees make the profits.

AGRICULTURAL LAND PRESERVATION

Agricultural preservation - removal of agricultural land; agricultural land preservation; using agricultural land; don't split up agricultural land; amount of loss and disruption to local based agriculture; preserve prime agricultural land.

Agricultural impacts - affecting food supply; danger to milk production from debris effects on forage; preserve farmland for food production; impacts on domestic animals; desire to know if local crop values will decline.

WATER

Availability/supply

Supply - for everything; effect of power plant's demand on other water users for power plant; economics of supply; need to know amount of water remaining for public after power plant is supplied;

Drought - need to know how water is allocated;

Drinking water - effect on drinking water;

Cost - impact on cost of water for household use;

Transportation - water availability for transportation;

Water-table disruption - effects on underground water supply; impact on domestic and irrigation wells; no limit on water for irrigation; drying up wells; water drawdown;

Enough water for plants and animals in streams; using hydro power would increase supply in an area;

Effect of weather on water availability.

Pollution

Water quality - minimize impact on water quality; water quality (cleanliness and temperature); adequate protection against polluting rivers; radioactive pollutants in water; danger to irrigation water from nuclear radiation; radioactive water carried by Great Lakes elsewhere; discharge of chlorine and other pollutants from treating intake water; water pollution causing fish and vegetation kills; heavy metals discharge into surface waters; contamination; particulate and chemical discharge; decrease in oxygen in lake or river; leaching from on-site coal piles; water-table conditions for ash disposal;

Temperature effect - thermal pollution; benefits of warm water -- including purification;

Effect on longshore currents; damming for hydro; damming effects on flooding.

GROWTH

Positive - assures no brown-outs; assure enough power; need adequate regional supply; electricity assures jobs; electricity assures higher standard of living; industrial opportunities; new businesses; need energy for home heating; encourages industry; new electricity for food production; effects of related development; generally positive effects on the community; income to local businesses; increase in land use for agriculture because of increased available electricity; greater electric energy in area.

Negative - economic growth unsuited to area; availability of power accelerates growth, affects quality of life; conservation of energy hard as more and more power plants built; growth may occur where growth not wanted.

Neutral - effect on future growth and development; will there be growth of commercial and industrial areas near the plant; need to determine kinds of growth desired.

POLITICAL/PLANNING

Who has decision-making power?

Government level - need to know which government level and who determines land use; reduce governmental restrictions and allow private enterprise more freedom; willingness of area to adopt and enforce air and water quality standards; concern with over-regulation by agencies of local residents and of power plant; lack of coordination between various governmental levels; monopoly potential of present energy supply companies; power and authority of regulatory agencies.

Rural rights - concern for the rights of communities and the need to return the ability to make their own decisions; need to know if small towns are expendable; local citizens have much less control over their lives; need to know if rural people are more expendable; public opinion; public acceptance of need for plant; local polarization; cost of community support; the will of the people should rule.

Planning/zoning - advanced planning to rectify possible damage to the environment; follow zoning laws; change in zoning patterns; compatibility with regional plans; land use legislation; local zoning should not supercede regional needs; adequate plans should be developed prior to construction -- between utility and local municipality and business community to provide necessary services; what procedure will be used to change zoning designation if necessary; land development controls; need for land-use regulation where none exists; need for regional plan first before selection of individual sites; coordination of site selection with community planning; no construction before environmental impact statements; equitable regulation of environmental aspects.

Condemnation, eminent domain, compensation - local decision on eminent domain; land condemnation; problems resulting from condemnation; responsible use of eminent domain; how to arrive at value of land and buildings to compensate owners; compensation to property owners whose lands suffer a reduction in value; people forced to sell; who appraises the land's value; leasing payment should be renegotiated periodically.

Citizen education - the need and value of plant; the need versus hazards; interpretation of environmental impact statements.

Citizen input - community dissension; desire of people in a community for plant safety; for siting plan in that community; equity in public opinion (Do I, John Doe, have as much say as Vice-President of Northern States Power).

WASTES/FUEL STORAGE

Waste disposal - whether on-site waste disposal is acceptable; coal piles; looks, space, etc; what are the real problems with waste:

Nuclear - nuclear waste disposal problems

Fly ash

What are alternatives?

Disposal of sulfur by-products

Use of wastes - use fly ash for fertilizer, concrete; political and technical restrictions to reprocessing nuclear wastes; use warm water for fish hatchery, near shore or in tanks.

Use wastes for fuel - build plant near landfill sites; use solid waste as fuel whenever possible.

Fuel storage - desire to know where it is stockpiled.

Use waste heat water for heating homes or irrigation of crops.

Utilization of sludge and ash.

HEALTH AND RADIATION

Health - human; effects on local residents; health effects on those most prone to low-level radiation; effects on public health; health hazards to the workers; nuclear radiation effect on employees, cumulative and short term; genetic effects of low-level radiation; humans as storers of radioactive wastes; cumulative radiation causing cancer; health concerns from transportation; fears/anxiety -- social fears; emotional effect on people; anxiety of people produced by uncertainty of nuclear power plants; have too many people, therefore can't have nuclear plants.

Radiation - radioactive emissions from plant which are long-lasting low-level radiation damage; danger from natural radiation damage; danger from natural radiation; concentration in dairy products; agricultural concerns due to radiation nuclear fallout; effects on biological systems; comparison of radioactivity-- coal, nuclear, geothermal, solar; cumulative and acute on all human and plant life; value of term "pico curie" (i.e. very small amounts of radiation); distinguishing sources of radiation.

CONSERVATION

Energy conservation - need to conserve energy produced from nonrenewable fuel resources; extent to which conserving energy will help; implementation of comprehensive energy conservation program; laws which forbid needless use should be enacted.

Changing production technology - use presently owned sites for experimentation with alternative energy-production methods; alternative energy sources; attempt to reduce peak energy demands; need economic incentives for alternatives; need to increase utilization of solar energy; potential for replacement of central station plants by solar, wind, or other alternatives; industries by conserving fossil fuel will increase their own electrical energy demands; emphasis on use of fuel cells; emphasis on recycling of glass and metal containers to conserve energy.

PLANT LOCATION

Existing site condition (amount and type of pollution); proximity to communication links;

In relation to population - protect existing homes; recognition of future growth areas; in north near labor supply; production of electricity in area with associated effects, use of energy outside area;

In relation to power uses - in industrial areas, near load center; near users to avoid transmission lines; for cogeneration of electricity and steam;

In relation to physical features - stay out of floodplain; proximity to lakes and streams; near large body of water.

In relation to land uses - proximity to residential areas; land not suitable for agriculture, parks or residential.

Specific concerns: avoid airports, locate power plants underground; stacks in relation to air travel; physical location that can be protected; avoidance of areas of natural hazards; considerations given to availability of basic building material (sand, gravel, stone, etc.) in area; not many sites.

SAFETY/SECURITY

Plant safety - vandalism; probability of catastrophe; explosions; melt-down; increased fire hazard; danger of nuclear malfunction; prime target in case of war; stringent specifications and safety standards should be used for nuclear plants; adequate safety precautions for coal plants; concern for potential dangers; safety questions regarding hydro power (dam failure, etc.); Occupational and Safety Administration (OSHA) doesn't cover nuclear questions.

Security - danger of sabotage; site easily protected; need federal protection force; police state/loss of civil liberties; police state measures necessary to control sabotage; concern over loss of freedom due to nuclear protection; legal changes to permit surveillance of radicals; security-fuel transport and waste transport.

Plans - are evacuation plans adequate in case of accident; closer liaison between civil defense and power plant.

AIR/CLIMATE

Air SO_2 - cleanliness (soot); nitrous oxide emissions; smoke emitted from coal-fired plant; coal dust due to emptying coal cars; noxious odors; radiation; particulate pollution; concern with view becoming obstructed by dirty air; thermal pollution effects on air; building damage from air pollution; nuclear - no smoke and dust.

Climate - effects on climate -- cooling tower cloud fog; changes in ice cover patterns; endangering earth's ozone layer; increased acidity in rainfall; climatic concerns for siting -- weather concerns; inversion patterns; thermal air pollution and climate changes; electrical disturbances; prevailing winds away from populated areas; frequency of severe storms; global effect on weather; greenhouse effect of H_2 evaporation; CO_2 concentration in atmosphere.

NATURAL ENVIRONMENT

Natural area preservation - least alteration of most virgin natural environment; avoid scientific areas; preserve scientific areas; concern for number of natural areas which remain for future generations.

Wildlife - effects of wastes and byproducts on wildlife; effect on endangered species; avoid wildlife habitat; concern with chimneys (stacks) in waterfowl migration routes; effects on wildlife and domestic animals; there is a minimal effect on animal life; wildlife leaving area because of unhealthy conditions; interference with wildlife and botanical habitat, especially if near creek or river mouth.

Fish - fish kills at water intake; change in fish quality -- positive or negative; impact on fish; entrainment and entrapment of fish; overabundance of marine life attracted to area.

Vegetation - better growth of vegetation; heat-island effect (associated with groups of plants).

Wetlands - avoid wetlands if at all possible; marshes and wetlands; effects on wetlands and other ecologically fragile areas.

Forests - depletion of forests and other renewable resources; effects on woodlots.

SOCIAL/CULTURAL

General - effects on social fabrics of the community; impact on political structure of the community.

Population changes - increasing; growth in area; urbanization of rural areas; quality of people brought in influx of undesirables.

People relocation, displacement - loss of land that has been in one family a long time; displacement of business, residences; relocation of residents who do not wish to live near facility; psychological effect on people having land taken by power plant.

Lifestyle, values - any changes affecting human lifestyle; value changed (attitude) towards conservation; impact on crime rate; disruption of social order; arrogance of big business; impact on performing arts (available facilities, etc.); minimize throw-away mentality; effect on mores; moral justification of oil and gas use vs. nuclear; would a nuclear plant deter people from moving into an area; boom problems associated with construction; decrease in social programs because of stronger economic bases; changes in living standards; moral and social effect on people concerned with energy needs but not negative effects; effect on feelings towards the land values; what social controls are implied by the spartan life which may result if energy production is halted; impact on family unit.

PHYSICAL SITE CHARACTERISTICS

Soils - suitable for construction; destruction of soil fertility by nuclear plants; erosion, construction runoff; damage from topsoil disturbance; contamination; locate on poor soil; soil conservation practices; radiation impacts on soil; productivity after the plant is decommissioned; increased sedimentation in lakes and streams caused by stripping of vegetation.

Geology - least disturbance to geology; geologic stability; geographic effects; suitable rock formation; nuclear plants causing creeks in rock formations; mineral value of land used for siting; preservation of unique geologic features (dunes, morraines); will there be a change in the geographic character of the land; efforts to maintain land contours; stability of shoreline bluff areas; need to know if plant would be more serviceable in a higher or lower elevation area.

Land requirements - need to know how much land is needed; height of plant, structures; land consumption of nuclear parks; regulations require excessive amounts of land for nuclear plants.

Physical features - physical condition of the land; drainage problems from increase in impermeable surface area; preserving the physical features that were instrumental in establishing the cultural heritage of the area.

NEED FOR PLANT

General - need for plant; maintaining standard of living; need to fix priorities for energy needs which are necessary; which energy uses can we really do without if necessary; increased attention to electric plant as opposed to other energy distribution system because of the concentrated nature; if power plant fails, danger to public; potential for social disruption if adequate power not provided; differences between actual power needs and utility projections; justification of need on basis of third-party projections of consumer demand.

Local - present and future need for power in both rural and urban sectors; importance of community energy independence; role of electricity in community support services.

Factories and schools - need for adequate power to keep factories and schools open.

National - striving to achieve energy independence (the U.S. and Wisconsin); interdependence of communities and areas; recognize the inability to ship all the bad aspects of decisions elsewhere while keeping most of the benefits; natural vs. local needs; consider worldwide needs for many operations; national economic worth vs. worth of unaltered site; need vs. industrial, commercial, agricultural, educational effects; additional power need in 1980; recognize "greater than local" needs; second-class status for America; ultimate inevitability; increased regional tolerance of others; we should maintain a realistic capability to deal with nuclear questions even if we do not emphasize nuclear power generation for U.S. needs.

TRANSMISSION LINES

General - means of transmission; need to know alternatives to transmission lines in long distance transport of large amounts of power; loss of energy in transmission.

Land requirements - need for transmission right-of-way; stacking of transmission lines; land affected by transmission lines; agricultural land should not be split up.

Location - use underground transmission lines; put transmission lines along highways (off agricultural land); so farmers can farm around them; avoid locating transmission lines near highways; pole placement to avoid problems with irrigation and tillage.

Scenic, aesthetic - plan corridors for the environment; visual impact of transmission lines; are power line poles more unsightly than other tall objects.

Corridor Use - as wildlife habitat; as firebreaks; planned recreation corridors.

Impacts - danger of microwave activity from HV transmission on cellular tissue and circulatory system: human/animal; ozone build-up and destruction of natural vegetation in transmission corridors; spraying of right-of-way; suitable routes; placing transmission lines in major bird flyways; keep routes open and accessible; will they follow existing corridors; effect on land values; health effects of electromagnetic radiation; soil erosion; farming; mining; forestry; better research on radio and TV interference.

Compensation - leasing payments should be renegotiated periodically; compensation to municipalities for transmission lines.

ENVIRONMENTAL DEGRADATION (GENERAL)

General - balance of nature; interference with ecosystem; harmful vs. beneficial; pollution and environment balanced, not disturbing balance of nature; quality of life, will it improve or diminish; environmental effects of not building plants; life in general; least environmental degradation; pollution to land and water; concentration in food chain; highest and best use of land; impact on the food chain; synergistic effects of thermal, chemical, and radioactive pollution; preservation of natural areas by the plant.

Mining - damage from mining; strip-mining laws; need to restore the natural quality of the land where fuel is extracted; biological and physical effects of mining fuel; amount of land used in fuel procurement;

destruction of natural areas in the West resulting from coal mining; social problems (crime, delinquency, alcoholism, etc.) in boom towns near mining; mine tailings from uranium are unusable; reclaimed land is not as productive as before; effect of black lung and other hazards to coal miners.

PLANT OPERATION

Operation - annual efficiency of a power plant; desire to know if utilities are power pooling; building-code compliance; use of scrubbers on coal plants; type of cooling methods; possibilities for load management at site; nuclear plant needs back-up unit; lead time required to begin operation; operation decisions unresponsive to local needs; increase energy efficiency; switching grid to other power facilities in event of power failure; plant should have resource conservation plan with soil and water conservation district.

Plant size - large plants versus small plants; avoid small plants; avoid large plants; massive plants equal fewer jobs and more welfare; smaller coal plants rather than larger for transportation needs.

Life of plant - entombment/decommissioning -- need to restore the natural character of the land where obsolete facilities are abandoned; costs of decommissioning; how are plants decommissioned; permanent encasement of nuclear power plant.

Buffer zone/multiple use - buffer zone between plant and residences; use trees for buffer; use of buffer zone for agriculture; land around plants should be for public use and benefit -- i.e. parks; all utility property should be used (timber or crops); plant trees instead of crop land; multiple use of area around plant; use for crops; use land as park or camping area.

FUTURE GENERATIONS

Responsibility to future generations; moral issue of responsibility to next generations concerning nuclear wastes; land is sacred trust for future generations.

SCENIC/HISTORICAL

Scenic - damage to scenic resources; loss of scenic areas; desire to know who decides what is a scenic area; preservation of scenic shorelines.

Historical - historical significance; preserve historical landmarks; important archeological sites; avoid cemeteries; destruction or conversion of ethnic, historical sites; avoid small burial grounds; make survey through local organization of local historical sites.

Minimize visual impact of plants and lines; visual impact of tall stacks and strobe lights; need to blend structures in with the surrounding areas; the assurance that the plant will be an attractive installation; aesthetic plant, including landscaping; architecture should complement area; scenic value of power facility; unsightly cooling towers; ugly power plants; appearances of cooling towers.

TRANSPORTATION/TRAFFIC

General - increase in amount of land used for transportation (roads, etc.); increase rail and road; loss of roads; reevaluate roads; use of water transport; closing of roads, availability of roads, availability of water; damage to environment from increased transportation needs; disruptions from transportation; effects on local highway maintenance; costs of accesses and bypasses around power plant.

Traffic increases - site far from major highways to prevent adverse traffic; i.e.-- especially during construction.

Distances - for transportation; need for roads means more land taken; site near highways; routing of nuclear wastes; routing changes for buses and other traffic where fogging/icing occurs from cooling towers.

RECREATION

Positive impacts - hydro creates lake and recreation areas; increased recreation (in cooling ponds, etc.); improved fishing from thermal pollution; hunting and fishing benefits around plants; tourism as result of plant; use of plant for education tours; research; warms Lake Michigan for swimming; plant is point of interest.

Potential negative - limiting access to lakes and streams; restriction of public uses; hunting/hiking, etc; possible decrease of recreation areas; reduction of recreational activities connected with water (boating, swimming, etc.)

Neutral - effect on recreational use of land and water impact on parks; effects on tourism; maintain Wisconsin's recreational appeal; effects on fishing and hunting; effect on existing and potential future recreation areas; regional recreation development versus economic needs for power development; preservation of park lands, desire to know if people at plant and changes in lifestyle would affect recreation.

LAND-USE CHANGE

Costs vs. benefits of land-use changes; site elimination from other future land-use options; residential encroachment in remote areas; mix land-use types; relocation of present land use; loss of natural land due to deposition of ash and SO_2 scrubber sludge, use of land after power plant is gone; concern with large land holdings; return land not needed back to private owners; protection of land from future plant encroachment.

NOISE

Noise; traffic and other noise; noise impact on residences; impact on wildlife; noise especially during construction.

INSURANCE/LIABILITY

Is plant insurance adequate; adequacy of insurance for population; who pays for environmental damage; public accepts liability for nuclear plant accidents due to Price-Anderson Act; liability for land contamination; better understanding of insurance coverage; victim culpability; compensation for victims; ratepayers shouldn't have to absorb costs of liability insurance; effect on local insurance costs; insurance companies will not insure homeowners or businesses in vicinity (in case of major nuclear accident).

RESEARCH NEEDS

Information - need for detailed, accurate environmental impact statements total monitoring of groundwater, streams, and air; dairy milk monitoring; need for baseline data and monitoring data; more factual data on biological effects; comparison of radiation: coal, nuclear, solar, geothermal; properly understood monitoring methods; better understanding of cancer-causing properties of plutonium; independent monitoring; can there be adaptive use of ecological change (e.g., use of thermal pools); need for comprehensive environmental studies in waste disposal; added cost due to overlapping research; early research for preservation of historic building sites; more adequate knowledge about the limits of human exposures allowable to toxic substances emitted from the plant; public information availability and support for public-interest research; accurate preconstruction monitoring; how to choose between air and water pollution.

Citizen needs - education and information on energy; methods for evaluating between emotional and factual studies; sharing of information nationwide between communities with similar power-plant-siting experiences; earlier citizen involvement in land-use issues, siting and licensing; educate lay people quickly; early research for preservation of historic building sites; keep people informed.

OTHER

Increased state aid because of short-term increase in population; should buy the whole farm; lower electric costs for local residents; special discount - reduced electric bill to consumers near plant; local decision on eminent domain; plant should make use of local resources (people, gravel, etc.); relocation of residents who do not wish to live near facility; streamline awareness of protest to reduce costs; need more global thinking (air, etc. vs. worldwide); good agricultural effects of sulphur from coal burning; new plants are less efficient because they are large; fission unnatural in the universe; fly ash disposal areas should have same restrictions as the Department of Natural Resources presumably uses for solid-waste disposal areas; alternative cooling technologies so river, lake site not necessary; desire to know if local agencies can monitor the impacts of the power plant; spatial extent of pollution; time span of biological and physical effects; better electric rates for industries in area; concern for medical services; provision of radioisotopes for pharmaceutical, industry, hospitals; responsible news reporting; factual information reported by all media; local community aiding expediting building of plant; need to know how to best address the many tradeoffs connected with these concerns; need to know the real facts presented in the pro and con debates on future plants; need to know if there will be more power or less during construction in an area; question as to whether engineers know what they are talking about; encourage public relations between power company and area residents; inability to hold protest groups accountable for future power deficiencies.

REGIONAL CONCERNS

Stevens Point - unique crops of area; adequate water supply from the Wisconsin River for use by the plant; impact on specific area industries: potato, cranberry, and dairy.

Sheboygan - regional maintenance of water quality -- cumulative effects on several sites; shoreline properties -- recreational and historic; values of maintaining and improving the integrity of the Great Lakes; preservation of unique geologic features (sand dunes, moraines); stability of shoreland bluff areas; changes in longshore currents; protection coastal areas; warm-water discharge inland (not into Lake Michigan); radiation contamination carried by Great Lakes; gondolas interfering with traffic put on Lake Superior, not Lake Michigan; warms Lake Michigan for swimming; aquatic life in Lake Michigan.

APPENDIX B

JANESVILLE WORKSHOP

GROUP PARTICIPANTS

Group 1

Judith Adler
Ben Beebe
Morris Bradley
Elmira Cerny
Lee Fricke
Marilynn Jensen
Gus Klatt
Robb Martin
Bessie Poppas
Norm Rable
Carl Welty
Zealy Williams

Leader: Bob Friedman

Group 2

Benita Byrd
Clinton Crowl
Mrs. Bernie Hilbert
W. O. Hoffman
Harmon Milner
Randel Oaklief
Helen Ostermiller
Richard Patten
Charles Staley
Lloyd Yelk

Leader: Elin Quigley

Group 3

Leroy Bauer
John Gelshenen
Lloyd Goding
Kip Oschwald
Frank Ozier
Mrs. Denis Rupnow
Kay Schultz
Richard Stenstrom
Olive S. Thomson

Leader: Charles Andrews

Group 4

Frank Dobbs
Ed Arn
Joan Hyer
Bill Linderud
Richelle Lisse
Joy Smage
Bob Spenle
Nancy Source
Fred Uphoff

Leader: Jill Randall

Group 5

Donald Beardsley
Edwin Blaney
Betty Bullock
John Ernster
John Higdon
Nadine Stoner
Gary Murphy
Gerald Myhre

Leader: Bob Terrell

Group 6

Nancy Douglas
Virginia Fellows
Edward Fuller
Don Goiffon
Allan Haukom
Janice Redford
Nancy Staff
Gertrude Sweet
Helmer Vasby

Leader: Jerry Shelton

Group 7

Sanford Anderson
Berneva Hebb
Richard Konicek
David Larson
Jerry Mason
Lynn Stainbrook
June Swannack
David Thompson
Harvey Wedeward
Sandra Osborn
Charles Wileman

Leader: Anton TenWolde

GROUP I

Biological and Physical

Rank	Points	
1	44	Pollution and environment balanced
2	35	Enough water for public after power plant use
3	33	Type of land suitable for construction
3	33	Effect on ground water and wells
5	32	Enough water for power plant
6	29	Disposal of nuclear wastes
7	28	Rail and road transportation in the area
8	27	Effects of wastes on humans
9	26	Type and deposit method of effluent
9	26	Type of fuels used
11	24	Advance planning to rectify possible damage to the environment
12	19	Using ag. land
12	19	Storage of fuel wastes
14	18	Logically where heavy industrial use needed
14	18	Planned corridors for the environment
16	16	Continuous independent monitoring of health hazards
17	15	Enough water at all (dry) times to keep the balance of nature
18	14	Distance power is to be transported

Rank	Points	
19	11	Effects of wastes and by products on wildlife
19	11	Not disturbing the balance of nature
19	11	Could split up ag. land
19	11	Citizen input on plant safety
23	9	Air pollution
23	9	Placement of power lines over ag. land
23	9	Visual concern of plant
26	8	Environmental impact of housing and sewers for temporary construction workers
27	7	Additional traffic generation
28	3	Water temperature effect
28	3	Traffic and other noise
28	3	Sufficient security in transport of fuel wastes (nuclear)
28	3	Effect on recreational use of land and water
28	3	Environmental disturbances of transmission lines
33	1	Amount of land required
34	0	Disturbance of geological sites
34	0	Construction runoff
34	0	Erosion
34	0	Use of water transport

Economic and Social

Rank	Points	
1	39	Electricity assures jobs
2	38	Higher standard of living due to electricity
3	36	Cost of municipal services
4	32	Assure enough power
5	28	Loss of ag. and residential land
5	28	Provide jobs via construction and operation
5	28	Taxes to various governmental units
8	26	Increased organization due to new power
9	24	Danger of nuclear disaster
9	24	Total lifetime cost in $ and energy for construction, operation and moth-balling
11	22	Are natural resources used to best advantage
12	17	Social problems of large increase in population
13	15	Cheaper power
13	15	Increase in population
15	14	Less likelihood of power failure because of local plants
16	13	Traffic-direct and indirect
17	12	Historic and archeological sites
17	12	Regional vs. local plants
19	11	Industrial conversion to electricity
19	11	Not upset local area during construction
21	10	Changes in property values
21	10	Cost of lost power due to length of transmission line

Rank	Points	
21	10	Economic hardship from power lines crossing land
21	10	New money in area
25	9	Increased public contest of local plant
25	9	More governmental services
27	8	Effects of plant failure on humans
28	7	Increase in local tax base
28	7	Locate where most people benefit
30	6	Can use be made of present transmission lines
31	5	Temporary impact of construction workers and families
31	5	Availability and quality of housing
33	3	Cost of correcting change in water purity
34	2	Cost of construction
34	2	Tourism and recreation
36	1	Impact of fuel consumption on community
37	1	Sufficient supply of labor in area
38	0	Sufficient schools
38	0	Concern for medical services
38	0	Lower tax base due to people not residing because of environment
38	0	Wage-level changes
38	0	Loss of recreational land
38	0	Economic impact of plant shut-down
38	0	Better fishing
38	0	Cost of duplicate construction

Land Use Concerns

Rank	Points	
1	63	Preservation of prime ag. land
2	54	Make use of existing facilities-roads, transmission lines, etc.
3	34	Location of transmission lines as part of plant siting decision
4	33	Urban sprawl because of increase in available power

Rank	Points	
4	33	More use of marginal land for lines
6	30	No nuclear waste dumps due to climate
7	25	Dams-flood control-fishing, recreation
8	24	Poorer land for construction site
9	23	Site where necessary transportation available

GROUP I

Land Use Concerns (continued)

Rank	Points	
10	19	Promotes linear commercial and industrial development
10	19	Transmission lines are hardships to farmers
12	18	As little damage to the land as possible
13	15	Planned final use of land
14	14	Preserve scenic areas
15	13	Preserve use of lakes and waterways for recreation
16	12	Transmission lines lower the value of ag. land
17	11	Impact on local businesses
18	10	Effort to maintain land contour

Rank	Points	
19	9	Make use of existing corridors
20	8	Destroying archeological sites
20	8	Planned recreational corridors along transmission lines
20	8	Whole farm buying
23	3	Good landscaping
24	3	Create aviation hazards
25	2	Should not fragment woodlands to corridors
25	2	Preserve marshlands
25	2	Visual pollution detracts from scenic value
28	0	Local radio and TV disturbance

Final Voting

Rank	Points	
1	71	Preservation of prime ag. land
2	36	Pollution and environment balanced
2	36	Make use of existing facilities-roads, transmission lines, etc.
4	33	Location of transmission lines as part of plant siting decision
5	29	Assure enough power
6	27	Cost of municipal services
7	25	Enough water for the public after power plant use
8	24	Danger of nuclear disaster
8	24	Enough water for the power plant
10	17	Type of land suitable for construction
11	14	Type of fuels used
12	13	Higher standard of living due to electricity
12	13	Taxes to various governmental units
12	13	Total lifetime cost in $ and energy for construction, operating, moth balling

Rank	Points	
12	13	Effects of wastes on humans
16	11	No nuclear waste dumps due to climate
17	10	Increased urbanization due to new power
17	10	Electricity assures jobs
19	9	Disposal of nuclear wastes
19	9	Transmission line hardships to farmers
19	9	Promotes linear commercial and industrial development
22	8	Rail and road transportation in the area
23	7	Urban sprawl because of increase in available power
24	6	Type and deposit method of effluent
25	5	Effect on ground water and
26	4	Provide jobs via construction and operation
26	4	Poorer land for construction site
28	3	Site where necessary transportation is available
29	2	Loss of agricultural and residential land
29	2	Maximum use of marginal land for transmission lines
31	0	Dams-flood control, fishing, recreation

GROUP 2

Biological and Physical

Rank	Points	
1	87	Availability of water
2	44	Waste disposal
2	44	Coal-plant emissions in air (SO_2, fly ash, etc.)
4	40	Particulate and chemical discharges in water
5	34	Water contamination (surface and underground)
6	27	Effect on agriculture
6	27	Effects on various vegetation and wildlife
8	26	Effect on downstream use
8	26	Impact on aquatic life
8	26	Limiting other water uses
11	20	Plant size having biological effects
12	17	Effects of material storage (coal...)
13	16	Effect of weather on water availability (too much or drought)
14	14	Heat discharges
14	14	Structural strength of water contaminants

Rank	Points	
		Structures (cooling lakes)
14	14	Floodplain encroachment
14	14	Fuel availability
13	18	Soil suitability
13	18	Quality of life impacts
20	12	Effect of cooling tower condensation
21	11	Changing drainage courses
22	9	Maintaining unique natural areas
23	8	Erosion of construction
24	7	Transportation to the site
24	7	Limiting recreational use
24	7	Water table levels
27	3	Noise levels
28	0	Adding impacts to industrial areas, rock formation suitability
28	0	Visibility impacts
28	0	Effects of water inversion
28	0	Proximity to airports

Economic and Social

Rank	Points	
1	45	Fuel transportation costs vs. transmission loss

Rank	Points	
2	44	Conservation rather than creating, increasing demand

GROUP 2

Economic and Social

Rank	Points	
3	37	Real estate taxes (benefits and losses)
3	37	Effect on population growth, housing, services, etc.
5	34	Safety and security
6	29	Loss of ag. land for industry (?)
7	26	Impact on orderly growth patterns
8	25	Municipal costs (security, police, fire)
9	24	Effects of plant size
10	23	Effects on schools
10	23	More plants increase energy availability
12	22	Ad valorem tax
13	20	Transmission line compensation for landowners
13	20	Impact on existing businesses, agriculture (benefits and losses)
15	19	Need to involve citizens in site selection
15	19	Proximity of plants to users
17	17	Legal changes to permit surveillance of radicals
18	16	Education (especially on nuclear questions)
19	15	Effect on property values
19	15	Advance state, county, and municipal planning
21	14	Siting for dual usage
22	13	Quality of life
23	11	Effect on wages
25	10	Increased regional tolerance of others
25	10	Power plants include recreational use
27	9	Compensation to municipality for transmission lines
28	7	Disruption of community from construction
29	6	More employment
30	5	Opportunity cost-cost of not building plant, delay costs, etc.
31	1	Archeological sites/historic areas
32	0	Housing availability

Land Use Concerns

Rank	Points	
1	51	Conserve prime ag. land
2	48	Maximum use of existing transportation corridors
3	42	Proximity to necessary resources (fuel, manpower, water...to use little land)
3	42	Coordination with local and/or regional land use plans
5	37	Siting for dual energy use
6	32	Maintain Wisconsin's recreational appeal
7	29	Site suitability in relation to other uses
8	27	Preservation of irretrievable (unique) natural resources...wetlands, forests
9	22	Available railroad tracks (for coal)
9	22	Geographic location
9	22	Transmission line effects
11	21	Associate power plant with waste disposal
13	17	Improvement of water quality
14	17	Without local opposition
15	17	Strict control of area development
16	15	Use industrial land (if possible)
17	13	Type of plant in relation to population centers
18	12	Maintain Wisconsin's recreational appeal
19	12	Preservation of wildlife nesting grounds
20	11	Ag. land becomes industrial, and lost to other uses
21	10	Plant sites away from water shorelines
22	9	Site suitability for lands in public domain
23	8	Preservation of pasture lands
24	7	Availability of highways
24	7	Power plant graveyards for other sites
26	4	Need for reasoning in regard to residential requirements
27	0	Appearances of cooling towers
27	0	Preservation archeological/historic sites
27	0	Scenic enhancement

Final Voting

Rank	Points	
1	59	Conservation
2	51	Availability
3	31	Conserve prime ag. land
4	29	Particulate and chemical discharges
4	29	Siting for dual usage
6	24	Fuel transportation costs vs. transmission loss
6	24	Advance state, county and municipal planning
8	22	Coal plant air emissions
8	22	Maximum use of transmission corridors
10	20	Safety security
11	19	Effect on population growth
12	18	Loss of ag. land for industry
13	17	Effect on downstream uses
14	15	Waste disposal
14	15	Siting for dual purposes
16	14	Effects of plant size
17	13	Effects on agriculture
17	13	Impact on orderly growth patterns
19	12	Water contamination
20	11	Preservation of unique areas
21	9	Coordination with local and regional land use plans
21	9	Municipal costs
23	8	Transmission line effects
23	8	Limiting other uses
25	7	Effects on native vegetation and wildlife
25	7	Use of transmission corridors for recreation
25	7	Site suitability in relation to other uses
28	6	Impact on aquatic life
29	5	Available railroad tracks
30	1	Proximity to necessary resources
31	0	Geographic location

GROUP 3

Biological and Physical

Rank	Points	
1	52	air discharged from power plants--particulates
2	45	effects on surface hydrology (water)--change in water flow
3	41	sulfur dioxide emissions
4	32	adequate means of disposal of spent fuels
5	31	lowering of water-table level
6	28	discharge of pollutants including heavy metals into surface waters
7	21	proximity to geologic hazards - faults, unstable soils, etc.
7	21	impact of transmission lines
9	19	effects of nitrogen oxide discharges
9	19	rise in temperature of surface water source
9	19	control of impacts on plants and animals
12	18	visible impact
12	18	changes in plant life in surface waters
14	17	effects of air pollution on dairy herds
14	17	decrease in oxygen in lake or river
14	17	health concern from possible accidents in transportation or use of radioactive fuels
17	14	destruction of rare plant or animal life
18	12	increase in humidity in surrounding area
19	9	loss of recreational use of lake
19	9	leakage of radioactive waters
20	8	effects of water withdrawals by deep wells
21	6	effect of inversions
21	6	increase in acidity of rainfall
21	6	storage of wastes on site
24	5	noise
25	2	power plant design
26	1	prevailing wind direction
26	1	proximity to end use
27	0	concern about design of power plant site lighting
27	0	orographic effects
27	0	proximity to fuel source

Social and Economic

Rank	Points	
1	44	proximity of demand to proposed site
2	40	"boom" problems associated with construction
3	35	environmental degradation
4	29	cost of energy to the consumer (cost of production at the site)
5	24	tax advantages
6	22	potential of use of waste products
7	20	industrial development
8	19	increased tax burden caused by an increase in services provided
9	16	problems of possible sabotage
10	15	local employment as a result of power plant
11	14	effects on adjacent land values
11	14	increased economic growth in the community
11	14	inconveniences to people being moved and relocated
14	13	quality of life changes caused by an increase in services provided
15	12	visual changes
16	11	use of railroads - positive and negative
17	10	impact on schools
18	9	increase in local wage scale
19	8	rapid population growth
19	8	increased local consumption caused by a power plant
19	8	increased demand for housing
19	8	adequate compensation for those who are displaced
23	7	cost as caused by proximity of demand and fuel sources
23	7	increased state aids
25	5	modification of adjacent land uses
25	5	availability of local medical facilities
27	4	effect of power plant on the local availability of fuel
27	4	highways-availability
28	2	size of plant - potential for electricity generation
29	2	increased demand for sewage treatment
31	1	loss of farmers spending on the community
31	1	health costs
32	0	ability of plant to convert to other fuels
32	0	effect on recreation
32	0	traffic safety for workers and tourists
32	0	decrease in tourism

Land Use

Rank	Points	
1	37	loss of prime agricultural land
2	17	minimize number of acres used
2	17	avoid floodplain and fault hazards
4	16	urbanization of land due to availability of power
5	14	stacking of transmission lines
6	12	preservation of natural scientific areas
7	10	does not conflict with higher economic use of the land
8	8	design of the power plant so that it fits into the surroundings
9	6	loss of scenic value
10	5	loss of recreational land
10	5	will railroad increase economic growth
10	5	loss of historical areas
13	4	use of farm land for mobile homes and camping
13	4	vast burial sites
15	3	concern with improvement of land around site for recreation
15	3	proper landscaping around the plant
17	0	does not cut up existing parcels unwisely
18	0	concern with chimneys in waterfowl migration routes
18	0	loss of land that has been in the family for a long time

Final Voting

Rank	Points	
1	45	loss of prime ag. land
2	38	particulate discharges
3	37	effects on surface hydrology
4	37	proximity of demand to proposed site
5	30	preservation of natural scientific areas
6	28	proximity to geologic hazards
7	27	environmental degradation
8	19	stacking of transmission lines

GROUP 3

Final Voting

Rank	Points	
8	19	rise in surface water temperature
10	16	lowering of groundwater table
10	16	industrial development
12	14	adequate means of disposal of spent fuels
12	14	cost of production at the site
14	13	sulfur dioxide emissions
14	13	discharge of pollutants into surface waters
16	11	increased tax burden caused by an increased demand for services
17	10	does not conflict with higher economic use of the land
18	9	tax advantages
19	8	boom problems associated with construction
19	8	potential for use of waste products
19	8	minimize number of acres used
22	7	urbanization of land due to availability of power
23	5	avoid floodplain and fault hazards
23	5	nitrogen oxide discharges
25	2	increased local employment as a result of power plant

GROUP 4

Biological and Physical

Rank	Points	
1	78	safety
2	49	immediate dispersal of pollutants in the air
3	44	condition of existing ecosystem
4	43	water quality
5	36	ultimate disposal of nuclear waste materials
6	28	radioactive pollution
7	27	effect of emissions on plant and animal life
8	25	availability of water for operation
8	25	genetic effects
10	20	possible human disease
11	17	impact of input materials (pre-conversion)
12	14	location of transmission towers on environment (flyways)
13	12	additional traffic effects
13	12	effects on local weather
15	10	vegetation and animal life on the site
15	10	visual effects
15	10	precluding other uses of water
15	10	contamination of food crops
19	9	transportation of nuclear waste (leakage)
20	8	thermal water pollution
21	6	effect on surface drainage
22	5	on-site storage of waste materials
23	4	impact on ground water supply
24	1	surface thermal pollution (land)
25	0	odors and smells and sounds
25	0	thermal air pollution
25	0	health effects of transmission lines

Economic and Social

Rank	Points	
1	78	net energy potential (system efficiency)
2	39	local area's need for power
2	39	developmental costs of site
2	39	area to be supplied by plant (local or further away)
5	36	consideration of future alternative energy sources
6	28	statewide energy needs
7	26	pressure on community services
7	26	operational costs
9	22	public acceptance and support
10	20	economics of scale
11	17	availability and convenience of operations supplies
12	16	increased consumer costs due to bureaucratic delays
13	14	effects on the local tax base
14	13	who gets control and profits from the plant
15	13	future impact on consumers' bills
16	12	effects on health
17	11	effects on food productivity
18	9	effects on social fabric of the community
19	8	effects on economic base of community (net income to local community from plant)
19	8	population flow and fluctuation
21	6	effects on tourism
22	5	increased traffic (nuisance value)
22	4	existing transportation facilities
23	1	usurpation of agricultural land
24	0	impact on land prices in the area
24	0	attention to the desirability of local industrial and economic growth
24	0	psychological effects (relocation)
24	0	impact on political structure of community
24	0	potential for waste heat use
24	0	potential for co-generation facilities

Land Use

Rank	Points	
1	44	who makes the siting decision
2	35	balancing land use in an area
3	32	routes of transmission lines (existing routes & development should be considered)
4	30	preservation of prime agricultural land
4	30	aesthetic fit of plant to the site (design)
6	28	location of necessary transportation facilities
7	26	prevailing winds in relation to housing patterns
8	25	use of water precluding other uses

GROUP 4

Land Use

Rank	Points	
8	24	location of plant in heavily industrial area
10	21	soil and other site limitations
10	21	preserving wilderness or natural areas (wetlands, prairies, forests)
10	21	adequate water supply for cooling
13	20	who appraises the site value
14	16	effects on streams and lakes
15	15	preserving residential areas
16	12	preservation of scenic areas
17	11	unique species or geological features on the site
18	11	location away from airport glidepaths
19	7	preservation of historically significant sites
20	5	public access to and potential usage of surrounding area
21	3	preservation of recreation areas
22	1	preserving shorelines
22	1	effects on feelings toward the land and land values
24	0	preserving flyways
24	0	preserving hunting and fishing
24	0	area required for all aspects of plants

Final Voting

Rank	Points	
1	41	safety
1	41	who makes siting decisions
3	35	net energy potential
4	32	disposal of nuclear wastes
5	26	routes of transmission lines (stacking)
6	23	local areas' need for power
7	21	consideration of future energy sources
8	20	immediate dispersal of pollutants
9	18	genetic effects
9	18	area to be supplied with energy
11	16	availability of water for operation
12	15	radioactive pollution
12	15	developmental costs of site
12	15	preservation of prime ag. land
15	14	soil and other site limitations
16	13	availability and convenience of operating supplies
17	10	statewide energy needs
17	10	balancing land use in an area
17	10	location of necessary transportation facilities
20	9	preserving natural areas
21	8	use of water precluding other uses
22	6	prevailing winds in relation to housing patterns
23	5	location of plant in heavily industrial area
24	4	operational costs
24	4	adequate water for cooling
26	3	condition of existing environment
27	2	water quality
28	1	aesthetic fit
29	0	effects of emissions on plant and animal life
29	0	possibility of human disease
29	0	pressure on community services
29	0	public acceptance and support

GROUP 5

Biological and Physical

Rank	Points	
1	51	ample supply of water for proper plant functioning
2	49	control of air pollution
3	30	geologic qualities of the proposed site
4	27	contamination of underground wells used for water supply
5	26	contamination of subsurface water by toxic wastes
6	23	least alteration of most virgin natural environments
7	22	avoid discharges of toxic materials into heated water effluent
8	17	temperature effects on surface water
8	17	effects on the aquatic ecosystem caused by low flows due to power plant use of surface waters
10	16	minimize effects on established wildlife areas
11	15	pollution levels should not rise above levels present in an area
12	14	toxic materials carried by evaporation water from nuclear power plants to vegetation and animals
12	14	availability of quantity of water necessary for nuclear power plants
14	10	effects of transmission lines in wetland areas on waterfowl
15	9	avoid wild animal habitats
15	9	minimize the impact of natural disasters (earthquakes, tornadoes, etc.) on power plants
17	8	leaching from on-site coal piles
18	7	evaporation from river leading to problems with sewage treatment downstream
18	7	avoid interaction of on-site nuclear wastes with surrounding environment
20	6	high voltage transmission lines should not endanger safety of people, animals or vegetation
21	5	atmospheric effects of cooling towers
21	5	surface water contamination from ash or SO_2 scrubber sludge disposal areas
23	4	particulate emissions from coal plants
23	4	consideration for the habitat of rare and endangered species
25	1	nuclear plant would not be able to utilize trash and garbage as fuel
26	0	plant should not be visibly ugly
26	0	groundwater levels being reduced during construction

GROUP 5

Economic and Social

Rank	Points	
1	27	future energy shortages
2	24	conservation measures should be taken to reduce energy demand
3	24	cost incurred by delay in construction of any generating facility
4	20	waste disposal problems connected with nuclear power
6	19	more equitability in electric rate structure-real costs should be used
7	18	architectural standards allowing current comfort levels with less energy use
8	16	availability fossil fuels
9	15	proximity to existing transmission lines
9	15	appropriate and realistic estimates of future needs should be made
11	14	availability of land, water, transportation
12	13	utilize current waste products as fuel
13	12	proximity to need area
13	12	lifestyles altered to demand less energy
15	11	energy users should become technologically more efficient
15	11	maximize efficiency of power plant by utilizing waste heat
17	10	type of fuel
17	10	energy needs for food production
17	10	alter tax laws to encourage conservation
20	9	transportation costs associated with transportation of large volumes of coal
20	9	cost of construction should be a true reflection of actual costs nationwide
20	9	employment by the power plants
23	8	costs and benefits of electrical energy production should be born equitably by both user and producer areas
24	7	safety problems associated with transport of nuclear wastes through communities
25	6	increased unemployment
26	5	economic and environmental problems associated with coal transportation
26	5	emphasize recycling of glass and metal containers to conserve energy
28	4	taxes paid by power plants
29	3	we should maintain a realistic capability to deal with nuclear questions even if we do not emphasize nuclear power generation for U.S. needs
29	3	the ultimate inevitability of the use of fast breeder reactors once the option of building nuclear plants is selected
29	3	less restrictions on future energy production
32	1	site should not utilize more prime farmland than is necessary
33	0	limited uranium supplies, subsequent rise in cost of uranium
33	0	cost of construction
33	0	danger radioactive wastes pose to future generations
33	0	divisive nature of arguments over energy need, supply and use
33	0	proximity of site to large residential areas
33	0	impact on local taxes caused by increased need for services resulting from power plant construction
33	0	human error and possible consequences in relation to nuclear power plants
33	0	cooling towers vs. once-through cooling
33	0	water use by power plants
33	0	proximity of power plants to industrial concentrations
33	0	minimum new road or rail construction to supply fuel to power plants
33	0	monopoly potential of present energy supply companies
33	0	existing air quality
33	0	laws which forbid needless use should be enacted
33	0	security-relating to sabotage, terrorism, etc.
33	0	attempt to reduce peak energy demands

LAND USE

Rank	Points	
1	51	preserve prime ag. lands
2	42	put plant in areas where there will be least amount of deterioration resulting
3	30	consideration of supporting transportation systems
4	27	carrying capacity of areas for generating industrial facilities
5	25	realization that facility and lines must go someplace
6	24	power lines parallel to railroads and roadways
6	24	powerplants near good supply of water
8	22	concern for spin-off or secondary impacts
9	17	adequate geological structure
9	17	avoid wilderness areas
11	16	amount of land available for future expansion
12	15	follow property lines with transmission lines when possible
13	10	scars on landscape due to surface mining of coal
13	10	most industrially developed areas should be used for power plants
15	8	no historic or pre-historic area used
16	7	underground transmission economically not feasible
17	6	drainage and type of soil
18	5	avoid virgin areas
18	5	electrical interference from transmission lines in residential areas
20	4	siting away from floodplain areas
20	4	leasing of national forests for uranium mining
22	2	no use of agricultural land
23	1	land area needed for cooling ponds
24	0	need for adequate water for both farming and coal processing
24	0	consideration of wind patterns in location of power plants

GROUP 5

Final Voting

Rank	Points	
1	34	Conservation measures to reduce demand
1	34	Preserve prime ag. land
3	28	Future energy shortages
4	27	Ample supply of water for proper plant functioning
5	23	Plants in areas where there will be least deterioration
6	20	Need for energy
7	19	Equality in electric rate structures - reflect real costs
8	18	Least allocation of virgin natural areas
9	17	Realization that facilities and lines must go somewhere
10	15	Contamination of underground wells
11	14	Need for realistic estimates of future energy needs
12	13	Carrying capacity of the area for generating and industrial
13	11	Control of air pollution
14	10	Effects of low flow on aquatic ecosystems
15	9	Availability of land, water, transportation
16	8	Geologic qualities
16	8	Cost incurred by delay in facility construction
16	8	Consideration of supporting transportation systems
16	8	Employment by power plants
16	8	Alter tax laws to encourage conservation
21	7	Architectural standards to preserve present comfort
21	7	Avoid wilderness areas
21	7	Taxes paid by power plants
24	6	Contamination of subsurface water by toxic substances
24	6	Power lines parallel to railroads and railways
26	4	Minimum effects on established wildlife areas
27	3	Concern for spinoff or secondary impacts
28	0	Avoid toxic discharges into heated effluent
28	0	Temperature effect on surface water
28	0	Availability of fossil fuels
28	0	Proximity to existing transmission lines
28	0	Adequate geological structures
28	0	Plants near good supply of water

GROUP 6

Biological and Physical

Rank	Points	
1	50	Air pollution affecting health (SO_2, NO_X, etc.)
2	37	Quality of water affected by chemical and thermal pollution
3	33	Effect on surface water availability in vicinity of site
4	32	What kind of energy source will be used; if nuclear, radioactivity
5	25	Effect of transmission lines on farmland
5	25	Fuel supply problems
7	23	Power plant location so as to minimize distribution facilities (physical and economic)
7	23	Could the power plant utilize garbage and other waste as fuel
9	22	Disturbance to unique or natural areas by power plant or transmission lines
10	21	Effect of pollution on farming and farm crops in the area
11	20	Disposal (or utilization) of sludge and ash
12	17	Population density
12	17	Proximity of power plant, transmission lines, roads, etc. to each other
13	14	Avoid archeological sites and historic buildings or districts
14	13	Proximity of power plant to industrial areas
15	11	Will thermal pollution affect the ecosystem in the water supply
15	11	Suitability of the topography
17	10	Effects on land vegetation in the area
18	9	Is soil type suitable for foundation and and drainage
19	8	Visual impact of the power plant
20	7	Effect of increased humidity on the weather (fog, sleet)
21	6	Could full use be made of wind energy
22	5	Effect on the flood plain
22	5	Can transmission lines by put underground
24	4	Proximity of residential areas to the power plant
25	1	Can there be adaptive use of ecological change (e.g., use of thermal pools)
26	0	Effect on animal populations
26	0	Would a plant be more serviceable in a higher or lower elevation area

Economic and Social

Rank	Points	
1	43	Location so as to minimize cost and problems of electrical distribution
2	37	Availability of fuel supply: domestic vs. foreign and plenty vs. scarce
3	36	More efficient licensing and approval procedures
4	33	Electric service reliability and cost
5	31	Providing for efficient public input
6	28	Is more electricity really needed in the area
7	23	Replacement of obsolete and wasteful plants with new, more efficient plants
9	20	Job creation
10	18	Small plants vs. large plants to eliminate transmission lines
10	18	Choice of fossil fuel substitution - from coal to sun to fusion
11	17	Cheap power within limits of safety
12	15	Could the power plant be a site for disposal of waste
13	14	Does the site maximize the possibility of utilizing waste heat
14	13	Effect on the labor market before and after construction
15	11	Provide electrical energy as a factor in national security
15	11	Achieve balance between environmental concerns and needs of people
15	11	Most efficient allocation of capital

GROUP 6

Economic and Social (continued)

Rank	Points	
18	10	The effect of transporting fuels on our transportation system and our communities
18	10	Economic and social costs of waste disposal
20	9	Anticipation of growth in an area, population and industry
21	6	Site plants out of residential areas and in industrial areas
21	6	Tax effects on local government financing

Rank	Points	
23	5	Effect on the value of the sourrounding land
24	4	Cost to community of construction and operation of plant
25	3	Proper allocation of limited water supplies
26	2	Allowance for long-term research
27	1	Industrial expansion capabilities
28	0	How can insurance against disaster be financed
28	0	What are the possibilities for load management at that site

Land Use

Rank	Points	
1	45	Concern with valuable farm land being used to site the plant or transmission lines
2	34	Siting with regard to efficient distribution points
3	26	Impact of industrial and residential development of the plant vs. other uses for the land
4	25	Preserve archeological and historic sites
4	25	Siting with adequate water supply
6	24	Proximity to significant natural spots
7	20	Placement of poles along highways and railroad right-of-ways to keep them out of agricultural land
8	19	Utilizing existing railroad beds for transport of land
9	17	Land disposal of wastes
10	13	Site near industrial areas

Rank	Points	
11	12	Pole placement to avoid interference with irrigation and tilling
12	10	Impact on recreation in the area of the plant
12	10	DNR pushing power lines onto good agricultural land
14	8	Use of round poles vs. lattice type to conserve land
14	8	Minimize erosion from plant siting and siting of transmission lines
16	7	Research into power storage
16	7	Lease of the land for transmission line pole siting
16	7	Use the minimum amount of land necessary for the plant
19	6	Impact of transmission lines on wetlands
20	3	Put transmission lines underground
21	2	Proximity to communication links
21	2	Keep the trees along the roadways

Final Ranking

Rank	Points	
1	35	Is more electricity really needed in the area?
2	28	Effect on surface water availability in vicinity of site
2	28	Air pollution affecting health (SO_2, NO_X, etc.)
4	21	Effect of pollution on farming and farm crops in the area
5	20	Concern with valuable farm land being used to site the plant or transmission lines
6	19	Providing for efficient public input
7	18	What kind of energy source will be used; if nuclear, radioactivity
8	15	Small plants vs. large plants to eliminate transmission lines
9	14	Availability of fuel supply: domestic vs. foreign and plenty vs. scarce
9	14	Electric service reliability anc cost
11	12	More efficient licensing and approval procedures
12	11	Effect of transmission lines on farmland
12	11	Location so as to minimze cost and problems of electrical distribution
14	10	Disturbance to unique or natural areas by power plant or transmission lines

Rank	Points	
14	10	Replacement of obsolete and wasteful plants with new, more efficient plants
14	10	Placement of poles along highways and railroad right-of-ways to keep them out of agricultural land
17	9	Fuel supply problems
17	9	Siting with regard to efficient distribution points
19	7	Quality of water affected by chemical and thermal pollution
19	7	Job creation
21	6	Preserve archeological and historic sites
22	4	Could the power plant utilize garbage and other wastes as fuels
22	4	Choice of fossil fuels substitution - from coal to sun to fusion
22	4	Impact of industrial and residential development of the plant vs. other uses for the land
25	3	Proximity to significant natural spots
26	1	Power plant location so as to eliminate distribution facilities (physical and economic)
27	0	Utilizing existing railroad beds for transport of fuel
27	0	Land disposal of wastes
27	0	Site near industrial areas

GROUP 7

Biological and Physical

Rank	Points	
1	49	Thermal pollution
2	44	Air pollution minimization
3	41	Need for energy investigation
4	38	Byproduct disposal
4	38	Water pollution
6	37	Effects on health
6	37	Effects on environment and drainage patterns of waterway diversion
8	31	Relation to population centers
9	28	Restoration of natural habitat
9	28	Plant safety
11	23	Loss of wildlife habitat
12	22	Wetland conservation
12	22	Investigation of alternatives
14	21	Solid waste disposal-dual use
15	19	Effect of transportation to area (railroads and highways)
15	19	Visual impact (minimal)
17	18	No construction before E.I.S.
18	15	Effects of transmission lines and substations (ozone, etc.)
18	15	Depletion of water resources
20	12	Waste heat utilization
21	10	Environmental impact of boom development
21	10	Magnitude of impacts
23	8	Siting near industrial areas
23	8	Burial of small transmission lines
25	6	Investigation of weather, geology of site (accidents, etc.)
26	3	Noise pollution
26	3	Adequate water available

Economic and Social

Rank	Points	
1	59	Tax cost and benefits to community
2	51	No construction money spent until full approval
3	44	Consumer cost of energy (effect on rates)
4	42	Projection methods for energy needs - impact of advertising
5	40	Full citizen participation and information on E.I.S.
6	35	Cultural impact, archeological site destruction
7	34	Effect on "quality of life"
8	32	Incentives to local townships (tax)
9	27	Safety
10	25	Secure long-term power supply and availability
11	23	True cost of alternative sources of energy
12	18	Allocation of investment dollars (opportunities lost)
13	17	Study of social and economic aspects of region and community
14	16	Effect of not having secure power
14	16	Incentives for use of off-peak power
16	12	Impact of construction boom (long-term)
17	11	Impact of physical extension of plant (smell, noise)
18	10	Cost-benefits of solid waste disposal
18	10	Discussion of cost of environmental improvements (emission controls, etc.)
18	10	Equitable allocation of costs
21	9	Psychological effects on local people
21	9	Willingness to build alternative pilot plants
21	9	Visual pollution
24	8	Effect of abandoned plant
25	7	Relocation of people
25	7	Siting near the point of use (economically efficient)
25	7	Equitable regulation of environmental aspects
28	6	Future recreational uses (fishing)
29	5	Impact of future industrial development
30	3	Employment (construction and maintenance) and impact of influx of skilled people

Land Use

Rank	Points	
1	80	Save good agricultural land
2	73	Long-term compatible landuse planning
3	51	Primary environmental corridor protection
4	39	Pursue energy center development
5	31	Siting next to existing facilities (land use)
6	30	Individual right to aesthetic beauty of countryside
6	30	Preservation of historical sites and archeological sites
6	30	Avoid building on hazardous sites
9	29	Avoidance of prime residential sites
10	26	Regional coordination of landuse planning
10	26	Recreational value of uncluttered countryside and use of recreational land
12	24	Effect of dollar value of adjoining properties
13	22	Stacking of power lines
14	19	Bury transmission lines
15	18	Route power lines with least possible visible pollution
16	15	Areas of unique geological value
16	15	Transmission lines should be included in E.I.S.
18	11	Leasing payment should be renegotiated periodically
19	9	Improve local area during construction and beautification
20	7	Identify beneficial impacts on landuse
20	7	Location near adequate cooling water
22	5	Disturbance of environment
23	4	Easy access to site
24	2	Land restoration after retirement of plant

Final Ranking

Rank	Points	
1	52	Save good agricultural land
2	51	Investigation of need for energy
3	35	Long-term compatible land use planning
4	32	Full citizen participation and info on EIS
5	31	Minimization of air pollution
6	28	Secure long-term power supply and availability

GROUP 7

Final Ranking

Rank	Points	
7	26	Projection methods for energy needs and impact of advertising
8	25	Primary environmental corridor protection
9	23	By-product disposal
9	23	Water pollution
9	23	Safety
12	22	Effect on quality of life
13	21	Relation to population centers
14	19	No construction money spent until full approval given
15	17	Tax incentives to local townships
16	14	Effects on health
17	13	Plant safety
18	12	Pursue energy center development
19	11	Avoid building on hazardous sites
19	11	Recreational value of uncluttered countryside and the use of recreational lands
19	11	Tax cost and benefits to community
22	10	Avoidance of prime residential sites
22	10	Restoration of natural habitat
24	9	Individuals right to aesthetic beauty of countryside
24	9	Consumer cost of energy, and effects on rate
26	7	Siting next to existing facilities
26	7	Thermal pollution
26	7	Cultural impact
29	2	Effects on environmental and drainage patterns of waterway diversions

APPENDIX C

EAU CLAIRE WORKSHOP

GROUP PARTICIPANTS

Group 1

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Albert Brokelman
E. J. Polasek
Rodney Johnson

Leader: Bob Terrell

Group 6

David Carlson
Brian Gabriel
R. T. Evans
Ruth Egerer
John Bacharach
Calvin Kraemer
Robert Petershack

Leader: Charles Andrews

GROUP 1

Biological and Physical

Rank	Points	
1	33	Deposition of waste materials
2	30	Depletion of non-renewable resources/fuels
3	29	Need for the plant
4	26	Removal of ag. land
5	21	Air pollution (from ash dust and coal trains - particulates, but broadened)
5	21	Thermal pollution of water
7	15	Damage from mining
9	11	Wildlife disruption/change
9	11	Low level radiation damage to ecosystems
10	10	Depletion of renewable resources - forests...
11	9	Water availability for transportation
11	9	Damage to environment from increased transportation needs
11	9	Radioactive pollutants added to water
14	6	Ecosystem damage from topsoil disturbance (runoff, etc.)
14	6	Concentration of radioactivity in dairy products
16	5	Transmission right-of-way as potential wildlife habitat
16	5	Cooling tower cloud
18	4	Thermal air pollution and climate change
20	3	Noise
21	2	Site elimination from future uses (esp. nuclear)
22	1	Damming of water to prevent flooding
23	0	Chemical pollutants added to water
23	0	Ozone build-up from transmission lines
23	0	Increased fire hazard
23	0	Water table disruption
23	0	Wetland disruption
23	0	Human exposure to explosions
23	0	Large ecosystem disruption from melt-down
23	0	Damming of water for hydro and disruption to the biosphere
23	0	Fish kills at water intakes
23	0	Alternative energy sources

Economic and Social

Rank	Points	
1	28	Need for plant
2	15	Siting near load center
3	14	Responsibility to future generations
4	13	Human health and safety
5	12	Increased tax base
5	12	Which govt. level has the final say
7	11	Loss of land uses
7	11	Industrial opportunities
7	11	Economic incentives for alternatives
10	10	Cost to consumer
11	9	Increased expenses to communities (food, schools, water...)
11	9	New business
11	9	Change in land value
11	9	Equity/voice of public opinion - Do I, John Doe, has as much say as Vice-President of NSP?
15	8	Proximity to residential areas
16	7	Economic advantages of renewable vs. nonrenewable power sources
16	7	Increased population (long term growth)
16	7	Rural rights
19	5	Means of transmission
20	4	Condemnation right
20	4	Disruptions due to transportation (materials for building, maintenance, fuel...)
22	3	Social disruption from construction
23	2	Social fears
24	0	Large scale versus small, dispersed siting
24	0	Cost of land for site
24	0	Value change towards conservation
24	0	Capital loans
24	0	Construction/operational jobs

Land Use

Rank	Points	
1	22	Disposal of waste
2	20	Use of valuable ag. land
3	19	Following zoning laws (too flexible)
4	18	Economic/ecological trade-offs
5	16	Land for transmission lines
6	14	Pollution to land and water
7	13	Size of sites
8	12	Build plant near land fill sites
9	11	Who determines land use?
9	11	Use of underground transmission lines whenever possible
9	11	Changing land values
12	10	Future land uses
13	9	Underground plant construction
13	9	Use of land for additional needed transportation facilities
15	8	Multiple use of area around the plant
16	7	Condemnation procedures
17	4	Forests
17	4	Wetlands
19	1	Value of transmission lines - firebreaks and wildlife habitat
19	1	Strip mining laws
21	0	Use of irrigation
21	0	Historical significance
21	0	Loss of scenic areas
21	0	Attitude toward conservation
21	0	Fly ash for fertilizer, concrete. etc.

Final Ranking

Rank	Points	
1	29	Need for the plant
2	27	Deposition of waste materials
3	21	Responsibility to future generations
4	18	Pollution to land and water
5	17	Depletion of renewable resources (forests, etc.)
6	15	Depletion of non-renewable resources (fuel, etc.)
7	13	Economic incentives for alternatives
8	11	Use of valuable ag. land for sites, transmissions...
9	9	Build plant near land-fill areas

GROUP 1

Final Ranking (continued)

Rank	Points	
10	8	Economic/ecological trade-offs
11	7	Siting near load areas
12	6	Cost to consumer
12	6	Air pollution from ash dust and coal trains (particulates)
12	6	Who determines land use?
15	5	Loss of land uses
15	5	Increased tax base
17	4	Low level radiation damage to ecosystem
18	3	Use of underground transmission lines wherever possible
18	3	Following zoning laws
20	2	Thermal pollution of water
20	2	Human health and safety
22	1	Which government level has the final say?
22	1	Size of sites
24	0	Wildlife disruption/change
24	0	Damage from mining
24	0	Industrial opportunities
24	0	Land for transmission lines
24	0	Changing land values

GROUP 2

Biological and Physical

Rank	Points	
1	39	Air pollution
2	32	Nuclear fallout
3	31	Total monitoring of groundwater, streams and air
3	31	Locate on "poor" soil (SCS)
5	29	No nuclear waste disposal in area
6	28	Water availability (for everything)
6	28	Sufficient supply of water for plant
8	26	Minimize impact on water quality
9	24	Danger of nuclear malfunction
10	23	Radiation effects on biological systems
11	22	Health effects on local residents
12	20	Fly ash control
13	18	Transportation and transmission distances
13	18	Minimizing route construction to and from plant
14	16	Suitable soil and rock formations
15	15	Relocation of people
16	14	Where fuel is stockpiled
17	13	Fuel availability
18	11	Effects on underground water supply
19	10	Danger to wildlife habitat
19	10	Adequate collection of background information
19	10	Availability of transportation routes
19	10	Prevailing wind away from heavily populated area
19	10	Dairy milk monitoring
24	9	Waste water utilization (irrigation, etc.)
24	9	Transmission lines provide fire breaks
26	8	Effects on endangered species of plants and animals
27	7	Increase in water temperature from plant discharge
27	7	Concern for fog and water vapor
29	6	Spraying of transmission line right-of-way
29	6	Minimize visual impact of plants and lines
31	5	Noise impact on residences
32	4	Residential encroachment in remote areas
32	4	Sufficient distance from major highways to prevent adverse traffic conditions
34	2	Dust from traffic and materials handling
34	2	Destruction of scenery
34	2	Enough water for plants and animals in streams
37	0	Transmission line disturbance of bird flight patterns
37	0	Fuel transportation hazards
37	0	Noise impact on wildlife

Economic and Social

Rank	Points	
1	35	Proximity of plant to demand area
2	29	Increased cost of municipal services (road, fire, police)
3	24	Displacement of businesses and residences
4	22	Adequate regional supply of electricity
5	21	Energy for home heating
6	20	Added tax revenue to municipality
6	20	Encourage industry
6	20	Accelerated increase in land value
6	20	Loss of ag. land
10	19	Suitable transmission routes
11	16	Increase in employment during and after construction
11	16	Growth in area
11	16	Impact on area population patterns
11	16	Fear of living next to nuclear plant
15	14	Equitable compensation to land owners
16	13	Decrease in land values
16	13	Location for cost-effective regional power system
18	12	Avoid small plants
18	12	Possible decrease in local electrical cost
20	11	Education of populace to need and value of plant
21	10	Unfair tax structure
21	10	Reliability of local plant vs. distant one
21	10	Resource recovery opportunity (refuse derived fuel)
24	9	Electricity for food production
24	9	Conforming to local zoning desires
26	8	Close location to industry to minimize transmission line costs
27	7	Community dissension
28	6	Are utilities power-pooling?
29	5	Choice of fuel to keep costs down
29	5	Hydro-electric create lake and recreation
29	5	Construction related traffic
32	4	Increased state aid because of short term increase in population during construction
32	4	Soil suitable for construction (cost of building)
34	3	Economics of water supply

GROUP 2

Economic and Social (continued)

Rank	Points	
35	2	Loss of roads
36	1	Extra security precautions needed
37	0	Additions to schools
37	0	Conservation practices
37	0	Solid wastes disposal alternative
37	0	Encourage small plants

Land Use

Rank	Points	
1	39	Avoid environmentally sensitive areas
2	33	Loss of ag. land
3	31	Buffer zone between plant and residential area
4	28	Water supply
5	27	Use a minimal amount of land
6	24	Neighborhood compatibility
7	22	More local govt. input on siting (local decision on eminent domain)
8	21	Avoid airports
9	20	Appropriate transmission routes
10	19	Stay out of flood plain
11	18	Re-evaluation of roads
12	16	Suitability of foundation soils
12	16	Change in zoning patterns
14	15	Keep transmission line routes open and accessible
15	14	Loss of water for irrigation of crop-lands (limits land use)
16	12	Closing of roads
17	11	Avoid direct crossing of crop land with transmission lines
18	10	Mix land use types
18	10	Transmission line effects - radio, TV, noise
18	10	Limit reserve of parks and forests
18	10	Soil suitability for sewage disposal
18	10	Limiting access to lakes and streams
23	8	Use surrounding land for crops
24	5	Preserve historical landmarks
25	4	Building code compliance
25	4	Compatability with regional plans
27	3	Effect on recreation
28	0	Hydro-electric - loss of scenic streams
28	0	Soil conservation maintained in adjacent land
28	0	Loss of scenic values

Final Ranking

Rank	Points	
1	30	Avoid environmentally sensitive areas
2	27	Proximity of plant to demand area
3	24	Loss of ag. land
4	23	More local govt. input on siting (local decision on eminent domain)
5	21	Air pollution
5	21	Total monitoring of groundwater, air and streams
7	18	Use a minimal amount of land
8	17	Suitable transmission routes
9	16	Increased cost of municipal services
10	15	Water availability
10	15	Nuclear fallout
10	15	Adequate regional supply of electricity
10	15	Displacement of businesses and residences
14	14	Buffer zone between plant and residential area
15	13	Added tax revenue to municipality
16	12	Encourage industry
17	11	Radiation effects on biological systems
17	11	Neighborhood compatibility
19	10	Located on "poor" soil
20	9	Sufficient supply of water for plant
20	9	Energy for home heating
20	9	Accelerated increase in land values
23	8	Danger of nuclear malfunction
23	8	Minimize impact on water quality
23	8	Avoid airports
26	6	No nuclear waste disposal in area
27	0	Stay out of flood plain

GROUP 3

Biological and Physical

Rank	Points	
1	45	Air pollution (coal and nuclear effects)
2	24	Type of fuel used
3	23	Effects on ag. production
4	20	Distance of plant to heavy population centers
5	19	Water availability for cooling
6	17	Use of prime ag. land
7	16	Disposal of plant wastes
7	16	Disposal and handling of nuclear wastes
7	16	Effects of transmission lines
10	14	Consideration of future energy needs
11	13	Safety
11	13	Physical condition of the land
13	11	Away from prevailing winds
13	11	Effects on local population
13	11	Disruption of ecosystem
16	10	Is plant really needed?
17	9	Frequency of severe storms
17	9	Low level local radiation
19	8	Thermal pollution (raising temperatures)
19	8	Radioactive emissions in drinking water
21	7	Probability of catastrophe
22	3	Noise pollution
22	3	Proximity to lakes and streams
24	2	Hazards of decommissioning (nuclear)
25	1	Geological stability
25	1	Good agricultural effects of sulphur from coal burning
27	0	Location of plant relative to user market
27	0	Moving of plant parts to the sites
27	0	Insurance (adequate?)
27	0	Probability of sabotage of nuclear plant
27	0	Plans for evacuation in case of accident

GROUP 3

Economic and Social

Rank	Points	
1	28	Effects on public health
2	24	Type of fuel used
3	23	Distribution of utility tax
4	22	Consideration of energy demand
5	19	Jobs provided by plant
6	16	Displacement of people
7	14	Impact on local taxes
8	13	Adequacy of evac. plants
8	13	Availability of adequate disaster insurance
10	11	Life expectancy of plant
10	11	Problems of nuclear waste disposal
10	11	Disruption of social order
13	10	Location in area of light agriculture
13	10	Amount of land taken (too much?)
15	9	Location in lightly populated area
16	8	Effects on agricultural productivity
16	8	Supply energy to local area
18	6	Adequacy of existing area services and protection
19	5	Consideration of cost per length of plant life
20	4	How fuel will be transported
21	3	Post-construction economic impact
21	3	Effects on land value
23	2	Transportation needs of operation
24	1	Cost and time of construction of plant
24	1	DNR and EPA
26	0	Economic demands on area construction
26	0	Effects on maintenance of local highways

Land Use

Rank	Points	
1	34	Location near industrial areas
2	32	Loss of ag. land
3	27	Amount of land taken
3	27	Where fuel is stored
5	24	Location away from residential areas
6	21	Effects of air pollution on nearby land
7	17	Scenic values
8	14	Preservation of waterways and wetlands
8	14	Consistent with local zoning
10	13	Maintenance of property values
10	13	Effects on fishing and hunting
12	10	Drying up wells (depleting ground water) precludes other uses of water
12	10	Plant should make use of local resources (people, other)
14	9	Important historical or archeological sites and landmarks
15	7	Effects on tourism (recreation areas)
16	3	Use of woodland as buffer zone
17	0	Location of stacks in relation to air travel

Final Ranking

Rank	Points	
1	34	Use of prime ag. land
2	19	Location near industrial areas
3	18	Amount of land taken
4	17	Disposal and handling of nuclear wastes
5	15	Loss of agricultural land
6	14	Disposal of plant wastes
6	14	Effects on public health
8	13	Air pollution
8	13	Types of fuel used
10	11	Impact on local taxes
10	11	Where fuel is stored
12	9	Effects on agricultural production
12	9	Effects of transmission lines
12	9	Distribution of utility tax
15	7	Water availability for cooling
15	7	Consideration of future energy needs
15	7	Adequacy of evacuation plans
15	7	Location away from residential areas
19	6	Jobs provided by plant
19	6	Availability of adequate insurance
21	3	Distance from heavy population centers
21	3	Displacement of people
23	2	Consideration of future energy demand
24	1	Scenic values
24	1	Consistent with local planning and zoning
26	0	Disruption of community social order
26	0	Effects of air pollution
26	0	Preservation of waterways-wetlands
26	0	Maintenance of property values
26	0	Effects on fishing and hunting

GROUP 4

Biological and Physical

Rank	Points	
1	42	Impact of heated water on fish, algae
2	39	Air concerns for downwind areas
3	38	Physical breakdown of plant (explosion, accident, etc.)
4	37	Availability of adequate water for plant cooling
5	35	Radiation impacts on all living things
6	32	Particulate pollution to air
7	23	Radioactive emissions to air
8	19	Waste removal and disposal
9	18	Availability of fuel
10	16	Transmission line size and routing
10	16	Protection from natural disasters
10	16	Compatability to comprehensive zoning
13	15	Fogging effect of cooling towers
14	14	Impact on the environment
14	14	Water drawdown
14	14	Buffer zone
17	13	Needs - location, necessity of power
18	12	Emotional effect on people
18	12	Global effect on weather
20	10	Land not suitable for parks, residential or ag. land
20	10	Physical location that can be protected
22	8	Effect of noise on plant neighbors
23	7	Impact of coal transportation on communities
24	6	Nuclear fission unnatural in universe
25	4	Radioactive impacts on aquatic environ.
25	4	Radiation effects on soil
25	4	Availability of transportation
28	1	Visibility of plant

GROUP 4

Biological and Physical (continued)

Rank	Points	
29	0	Greenhouse effect of evaporation of water
29	0	Electrical disturbances
29	0	Weather concerns

Economic and Social

Rank	Points	
1	49	Relocation of existing land use
2	35	Public health effects
3	30	Public safety concerns
3	30	Who has decision/policy making control
5	28	Availability of waste disposal sites
6	24	Will it provide jobs locally
6	24	Current and future cost of fuel
8	23	Community need for power - locally and regionally
9	21	Provides a tax base
10	20	Impact of facility on utility rates
11	18	Impact on local schools
12	17	Operating costs over long time framework
13	16	Cost of the policy
14	13	Transportation needed - roads, RR
15	12	Change in character of local area
16	10	Effect on property values
17	9	Impact on housing
18	8	Effect of power lines on land values
18	8	Who pays for environment damage?
18	8	Increase in population
21	7	Availability of skilled personnel
22	5	Nearness to fuel supply
22	5	Social impact on performing arts (available facilities, etc.)
22	5	Facility location in relation to population

Land Use

Rank	Points	
1	49	Ag. land preservation
2	37	Amount of loss and disturbance to local based ag.
3	32	Restricts adjacent land use (compatability)
3	32	Proximity to fuel source vs. transmission losses
5	30	Highest and best use of the property
6	23	Effect on future growth and development
6	23	Equitable distribution of regional costs and benefits
6	23	Need for transmission line ROW
9	21	Effect of changing uses of land and water resources
10	14	Devaluation of surrounding homes
11	13	Protecting recreational areas
12	12	Buffer zone between plant and surroundings
13	11	Preserve unusual wildlife (habitat, etc.)
13	11	Destruction and/or devaluation of scenic areas
13	11	Population of surrounding area
16	9	Preventing land abuse: erosion, tree cutting, etc.
16	9	Restriction of public uses, hunting/hiking, etc.
16	9	Locating a power plant near consumers
19	8	Location near lakeshore/riverbank
20	7	Alternative cooling technologies so river, lake site not necessary
20	7	Quality of soils for proposed uses
22	2	Destruction of historical sites
23	0	Preserving scientific areas
23	0	Price of land

Final Ranking

Rank	Points	
1	38	Ag. land preservation
2	37	Public health effects
3	32	Community need for power
4	24	Amount of loss and disruption to local agriculture
5	22	Public safety concerns
6	21	Availability of adequate water
7	18	Radiation impacts on all living things
8	16	Highest and best use
8	16	Will it provide jobs locally
8	16	Provides a tax base
11	14	Waste removal and disposal
12	13	Transmission line ROW
13	11	Current and future cost of fuel
13	11	Physical breakdown of plant
13	11	Effect on future growth
16	10	Effect of changing uses of land and water resources
16	10	Air concerns for downwind areas
16	10	Impact of facility on utility rates
19	8	Thermal pollution
20	7	Particulate pollution to air
20	7	Transmission line size and routing
22	6	Proximity to fuel source
22	6	Who has decision/policy making control
24	5	Restricts adjacent land use
25	4	Equitable distribution
26	3	Devaluation of surrounding homes
26	3	Protection from natural disasters
26	3	Relocation of existing land use
29	2	Compatability to comprehensive zoning
30	1	Availability of fuel
31	0	Availability of waste disposal site
31	0	Radioactive emissions to air

GROUP 5

Biological and Physical

Rank	Points	
1	42	Radioactive emissions from plant which are long lasting
2	32	Need for baseline data and monitoring data
3	29	Thermal pollution in the river
4	27	The plant should not be detrimental to the health of people in the area
5	26	Impact on other valuable natural resources (timber, groundwater, etc.)
6	21	Disposal of nuclear wastes
7	20	Minimal disturbance of plant and animal environments
8	19	Potential for biological mutation
8	19	Research needed to develop data in areas where such data is lacking or inadequate
10	17	Will water use by the plant lower the water table?
10	17	Location of plant to minimize obstructions and interventions to other natural areas such as scenic or wild rivers,etc.
12	16	Destruction of soil fertility by nuclear plants
12	16	Meeting or maintaining air quality standards in the area
14	15	The need to be able to predict or estimate the potential environmental impact of the changes we propose
15	14	Disruption to the environment caused by the process of extracting and shipping fuel
16	13	Loss of natural land due to disposition of ash and SO_2 scrubber sludge
17	11	Concern for the number of natural areas which remain for future generations
18	7	Availability of water for use by the plant could vary with size and type of plant
18	7	Visual impact of transmission lines
20	6	Destruction of natural vegetation in transmission corridors
21	5	Minimize noise pollution
22	4	Visual impact of tall stacks and strobe lights
23	2	Location of plant near use area to minimize disruption to surrounding areas caused by transmission lines

Economic and Social

Rank	Points	
1	35	Need to conserve energy produced from non-renewable fuel sources
2	29	What social controls are implied by the "spartan" life which may result if energy production is limited
3	26	Need to produce more electrical power to replace oil and gas energy supplies
3	26	Long term social needs should take precedence over higher short term capital costs - minimize throw away mentality
5	25	Use of solid waste as fuel when possible
6	23	Waste of energy represented in cooling water
7	21	Need to increase utilization of solar energy
8	17	Concern for potential dangers
8	17	Concern for the rights of communities and the need to retain the ability to make their own decisions
10	16	The most economical future power plants that will fit the environment
11	15	Public accepts liability for nuclear plant accidents due to Price-Anderson Act
12	13	Need to provide energy for the employment of our citizens
13	11	Need to know both production and demand within any area
13	11	Need to prioritize energy needs - which are necessary and which energy uses can we really do without if necessary
13	11	Cost of power to the consumer
16	10	Present and future need for power in both rural and urban sectors
16	10	Beneficial economic impact on business
16	10	Reduction in number of jobs caused by automation of newer power plants
16	10	Increased attention to electric plant as approach to other energy distribution systems because of its concentrated nature
16	10	Danger of sabotage of nuclear plants
21	9	Effect on property values, both inflation of value and detriment resulting from increased taxes
22	8	Interdependence of communities and areas - recognize the inability to ship all the bad aspects of decisions elsewhere while keeping most of the benefits
23	7	Production of electricity within an area and associated effects, but use of this energy outside the area and little use within area of production
24	6	Nuclear plants are too expensive
25	5	Increased employment in site where plant is located
26	2	Population growth increases demand for services in area where plant is located
27	1	Relocation of people from proposed power plant site
28	0	Need to blend plant into community

Land Use

Rank	Points	
1	36	Locate plant where power is needed
2	34	Concern for the preservation of good agricultural land
3	29	Locate plant on land that has marginal use for other uses
4	27	Locate plant where amount of transmission lines is minimized
5	26	Need to restore the natural character of the land both where fuel is extracted and where obsolete facilities are abandoned

GROUP 5

Land Use (continued)

Rank	Points	
6	20	Structures should blend in with areas
7	13	Are small towns expendable
7	13	Avoid wetlands if possible
9	11	Stay away from congested areas
10	10	Create and preserve park and recreation land
11	8	Preserve historic and cultural sites
12	7	Visual impact of transmission lines
12	7	Avoid wildlife habitat
14	3	Strobe lights unsightly
15	2	Who decides "what is a scenic area"
16	1	Avoid cemeteries

Final Ranking

Rank	Points	
1	27	Concern for potential dangers
2	19	Conserve energy from non-renewable sources
2	19	Preserve good agricultural land
4	18	Disposal of nuclear wastes
4	18	Not detrimental to human health
4	18	Social controls implied if energy production limited
7	16	Use of solid waste as fuel where possible
7	16	Restore natural character of land
9	13	Minimal disturbance of plant and animal environments
10	12	Thermal pollution
10	12	Long lived radioactive emissions
12	11	Locate plant where power needed
13	10	Need for electricity to replace gas and oil energy sources
13	10	Beneficial impact on businesses
13	10	Strobe lights unsightly
16	9	Need for baseline and monitoring data
16	9	Waste of energy in cooling water
16	9	Structures blend in with area
16	9	Small towns expendable
16	9	Increased employment in areas near sites
21	8	Locate plant on land with marginal use for other uses
22	7	Potential for biological mutation
22	7	Need to increase utilization of solar energy
24	6	Visual impact of transmission lines
24	6	Preserve historic and cultural sites
26	4	Long term social needs take precedence over short term capital costs
26	4	Concern for rights of communities - local decision making
26	4	Site away from congested areas
26	4	Minimize transmission lines
30	2	Water use lowering water table
30	2	Location to minimize intervention in natural areas
30	2	Avoid wildlife habitat
33	0	Impact on other natural areas (timber, etc.)
33	0	Research needed to develop baseline data where inadequate
33	0	Most economic plants that will fit the environment
33	0	Avoid wetlands
33	0	Create and preserve park and recreational land

GROUP 6

Physical and Biological

Rank	Points	
1	45	Deposition of residue from plant - radioactive wastes
2	44	Health problems - general public
3	35	Radioactive pollution
4	27	Use of prime agricultural land
5	25	Location in regard to wind direction
6	22	Availability of water at all times
7	21	Impact on domestic and irrigation wells
8	17	Impact on endangered plant, animal fish species
8	17	Potential effect on drinking water, especially on surface water
10	15	Potential effects of transport problems for either coal or nuclear
10	15	Smoke - sulfur
10	15	Impact on the food chain
13	13	Noise
14	12	Concern with view becoming obstructed by dirty air
14	12	Soil erosion due to all possible causes
16	11	Health hazards to the workers
17	10	Thermal pollution of the water
18	6	Impact of new roads and/or railroads
18	6	Visual impact
18	6	Deposition of fly ash
21	5	Placing transmission lines in major bird flyways
22	2	Can local agencies monitor the impacts of the power plant
22	2	Geographic area covered by the plant - are there unnecessary land uses
24	0	Concern with fog and ice

Economic and Social

Rank	Points	
1	43	Quality of life - will it improve or diminish
2	29	Impact on schools, law enforcement, hospitals and social service agencies
3	26	Impact of large population flux
4	22	Radioactive waste disposal and storage - economic aspects -- how much does it cost?
5	21	Can you make do by conserving energy
6	20	Effect of state tax levy limits on communities faced with rapid expansion and contraction
7	15	Utility taxes - how they are distributed
8	13	Cost of living increase
9	12	Labor force generated, both primary and secondary
9	12	Impact on land values

GROUP 6

Economic and Social (continued)

Rank	Points	
9	12	Potential for replacement of central station plants by solar energy, wind, or other alternatives
12	11	Zoning - is there any
12	11	Danger of a nuclear power accident
14	8	Cost of power for various types of plants
14	8	Impact on other industries - displacement
14	8	Is the power needed - or is demand being created
14	8	Cost of health problems created by power plants
18	7	Financing costs for planning and needed facilities
19	6	Possible decrease of recreational areas
19	6	Productivity after the plant is decommissioned
21	5	The need for housing
22	4	Solid waste disposal - caused by increased population
22	4	Will there be growth of commercial areas near the plant
22	4	Power plant security
25	3	Fuel availability - especially uranium
26	2	Effects of the availability of more power
26	2	Cost of monitoring
28	0	Increased demand on sewage system
28	0	Job allocation - will jobs be filled by locals or outsiders
28	0	Is there local opposition to nuclear power
28	0	Outmigration of residents as a result of construction
28	0	Effect of population decrease after construction is finished
28	0	What type of financing is available - is industry bonding available

Land Use

Rank	Points	
1	39	Avoidance of natural hazards - earthquakes, floods
2	33	Liability for land contamination
3	20	Zoning - is it adequate to meet new growth demands
4	18	Need for highways or rivers for transportation
4	18	Locating land for waste disposal
6	17	Vanishing agricultural land
6	17	Land use legislation
8	15	Destruction of wildlife habitats
9	13	Problems caused by new transportation demands
9	13	Requirements for abandoning
11	11	Use of land after power plant is gone
12	10	Land needed besides that for the actual plant construction
12	10	Will power plant affect use of land near the site
12	10	Will more power bring more industrial growth
15	6	Height of structure - in regard to aircraft and obstruction of view
15	6	Condemnation of land for the site
17	5	Recreational use - by how many people
17	5	Is land value affected
19	4	Type of highway traffic generated by power plant
20	1	Will new transmission lines be needed and will they follow existing corridors
21	0	Will new railroads be needed or are existing ones adequate
21	0	Destruction of historical landmarks

Final Ranking

Rank	Points	
1	44	Quality of life
2	31	Health problems - general public
3	27	Avoidance of natural hazards
4	24	Deposition of the residue from the plant - radioactive wastes
5	23	Zoning - is it adequate
6	16	Conservation
7	15	Vanishing agricultural land
8	14	Radioactive pollution
9	13	Liability for land contamination
10	12	Land use legislation
10	12	Availability of water
12	10	Replacement of central station with solar, wind and other alternatives
13	8	Wildlife habitat
14	7	Utility taxes - how are they distributed
15	5	Effect of state tax levy limits
16	4	Requirement for abandonment
17	3	Potential effect on drinking water - especially surface water
18	2	Transportation - need for more
18	2	Cost of living increase
18	2	Location in regard to wind direction
21	1	Impact on schools, law enforcement, hospitals, social services
22	0	Waste disposal - locating land
22	0	Impact of a large population flux
22	0	Impact on land values
22	0	Labor force generated, primary and secondary
22	0	Smoke - sulfur

APPENDIX D

STEVENS POINT WORKSHOP

GROUP PARTICIPANTS

Group 1

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Don Grade
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Herbert L. Rieckmann, Jr.
Robert Robicheau
Cindy Voigt

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GROUP 1

Biological and Physical

Rank	Points	
1	65	Air pollution - visible - smoke, particulate
2	55	Contamination of soil, water and vegetation, effects on food cycle
3	45	Air pollution - invisible - chemicals, radiation, odor
4	29	Effects on wildlife and domestic animals
4	29	Solid waste disposal from plant and effects on environment
6	26	Danger of microwave activity from HV transmission on cellular tissue and circulatory system: human/animal
7	23	Water pollution - fish and vegetation kill
8	18	Removal of recreation and/or ag. lands
9	16	Need vs. danger to the community
9	16	Danger of any degree of radioactivity from any source associated with power plants
11	15	As near as practical to power demand
11	15	Danger to milk production from debris effects on forage
13	13	Biological and physical effects of producing fuel
14	12	Comparison of radioactivity - coal vs. nuclear
14	12	Nuclear radiation - effect on employees - cumulative and short-term
16	11	Any changes affecting life-style
16	11	Concerns of power plant affecting weather
16	11	Nuclear radiation - cumulative and acute on all human and animal life
19	10	Close to or near fuel source or fuel transportation system
19	10	Determination of need
21	9	Noise
21	9	Aesthetic incompatability of plant and transmission lines
23	8	Sabotage and nuclear blowouts/meltdowns, effects on environment, and safety of community
24	5	Danger to irrigation water from nuclear radiation
25	3	Associated growth from plant - especially rural areas
25	3	Maintain or establish smaller plants in lieu of larger plants
27	2	Danger from natural radiation
28	0	Sites, plants not in heavily populated area
28	0	Safety dangers due to increased highway and rail usage
28	0	Effect of power plants' water demand on other water users

Economic and Social

Rank	Points	
1	37	Effect on existing and potential future recreation areas
2	34	Present taxes vs. new employment, need, economic impact to community
3	26	Effect on local population
3	26	What kind of growth do we want?
5	25	Increased local property taxes required to support increased services
5	25	Special discount - reduced electric bill to consumers near plant
5	25	Potential harmful/beneficial effects
8	23	Local citizens have much less control over their lives
9	21	Job supply - during construction, operation and indirect effects
10	20	Police state measures necessary to control sabotage
10	20	Education to local people of need versus hazards
12	19	Greater tax return to local governments - first five years
13	17	Proximity to demand area
14	16	Need vs. industrial, commercial, agricultural, educational effects
15	15	Concern - operation, decisions unresponsive to local needs
15	15	Danger to local traditional, archeological, cultural sites
17	14	Available power encourages some new industries
17	14	Direct energy costs to user
19	11	Massive plants - fewer jobs and more welfare
20	10	Effect on local wage scale
21	9	Only the company and employees make the profit
21	9	Cost of construction
23	8	Available power sources
25	6	Why locate it here
25	6	Requirements and needs of the increased work force
26	4	Quality of people brought in
27	0	Fair regulation
27	0	Trade skills required and its availability locally

Land Use

Rank	Points	
1	45	Effect on water supplies
2	37	Aesthetics
3	33	Transportation needs
3	33	Impact and disruptions to people and communities
5	32	Regional recreational development vs. economic needs for power development
6	30	To be located in area of least disturbance to natural environment
7	25	Effects on adjacent land
8	24	The assurance that the plant will be an attractive installation
8	24	Positive insurance of reasonable environmental safeguards
10	23	Increased industrialization of rural areas
11	21	Whether waste disposal is OK on site
11	21	Can we afford to sacrifice prime ag. lands?
13	17	Problems resulting from condemnation
14	16	Irreversible uses of land
15	15	Preserve farm land for food production
15	15	Better tax returns to local government to dull local opposition

GROUP 1

Land Use (continued)

Rank	Points	
17	14	Destruction or conversion of ethnic, historical areas/sites
18	13	Will taxable land be lost?
19	12	Location in regards to demand center
20	10	Protect archeological sites
20	10	H.V. transmission lines cutting across agricultural lands
22	7	Protect existing homes and homesites
23	4	Arrogance of big business

Final Ranking

Rank	Points	
1	40	Effect on water supplies
2	38	Air pollution - visible - smoke, particulates
3	35	Air pollution - invisible - chemical, odor, radiation
4	32	Potential harmful/beneficial effects
5	31	Contamination of soil, water, vegetation effect on food cycle
6	30	Water pollution - vegetation and fish kills
7	29	Positive insurance of reasonable environmental safeguards
8	28	What kinds of growth do we want?
9	24	Impact and disruptions to people and communities
10	20	Solid waste disposal from the plant
11	17	Danger of microwave activity from H.V. transmission on cellular tissue and circulatory systems - human/animal
11	17	Removal of recreational and/or ag. land
11	17	Danger from any degree of radioactivity from any source associated with power plants
11	17	To be located in area of least disturbance to natural environment
15	15	Police state necessary to prevent sabotage
15	15	Education to local people of the need vs. the hazards
17	13	Effects on wildlife and domestic animals
17	13	Increased local property taxes required to support increased services
17	13	Increased industrialization of rural areas
20	12	Present taxes vs. new employment, need, economic impact to community
21	10	Need vs. dangers to the community
22	8	Regional recreational development vs. economic needs for power development
23	6	Effects on adjacent land
24	5	Effect on local population levels
24	5	Aesthetics
26	3	Job supply - during construction and operation, indirect effects
26	3	Special discount to reduce electric bill of consumers near plant
26	3	Local citizens have much less control over their lives
29	0	Effect on existing and future recreation areas
29	0	The assurance that the plant will be an attractive installation
29	0	Transportation needs

GROUP 2

Biological and Physical

Rank	Points	
1	62	Disposal of nuclear waste products
2	59	Safety (for local residents)
3	39	Availability of water
4	37	Geology of plant site and soil
5	34	Effects on animal and plant life
6	33	Human health (physical)
7	29	Water quality (cleanliness and temperature)
8	22	Spatial extent of pollution (effects)
9	21	Psychological effects on people of noise and lights
10	19	Population concentration (amount)
10	19	Effects on agriculture (food supply)
12	14	Fly-ash storage
12	14	Handling and storing of raw materials
14	13	Air pollution from coal-fired plants and controls
15	11	Safety of plant workers
16	10	Visual impact (plant) (lines)
17	9	"Land requirements" for coal
17	9	Effects of increased service facilities, transportation facilities for plant (roads)
19	7	Effects of related development
20	6	Water condensation (rel. to cooling tower)
20	6	Existing site condition (amount and type of pollution)
22	4	Land requirements for nuclear waste disposal
22	4	Safety requirements for transmission lines
24	1	Land requirements for tranmission lines
35	0	Soil conditions
25	0	Visual impact of transmission lines
25	0	Time span of biological & physical effects
25	0	Climate of site (i.e., inversion patterns)

Economic and Social

Rank	Points	
1	59	Inequitable tax redistribution
2	53	Public awareness of consequences of lack of electrical energy
3	45	Impact of work force (change in housing, schools, population of area, on social services)

Economic and Social (continued)

Rank	Points	
4	41	Public acceptance of need for plant
5	32	Effect on present area (recreation, groceries, business, etc.)
6	30	Sufficient support services; waste disposal, utility
7	25	Effect on land values
8	21	Effects on general tax rate (hidden costs)
9	20	Number of permanent employees
9	20	Effects on moves (culture)
11	16	Health costs
11	16	Lead time required to begin operation
11	16	Cost and availability anywhere of fuel chosen
14	14	Impact on utility consumer's bill
15	13	Power authority of regulatory agencies
16	11	Costs of waste disposal and storage
17	10	Loss of agricultural production (land)
18	9	Adequacy of insurance for population
18	9	Cost of pollution control and monitoring
20	8	Security of plant
21	7	Effects on food production
22	6	Impact on family unit
23	5	Effects on recreation in area
23	5	Local availability of fuel
25	2	Interpretation of E.I.S.'s
26	1	Costs of decommissioning
27	0	Available work force

Land Use

Rank	Points	
1	74	Removal of agricultural crop land
2	36	Impact on existing recreational sites
2	36	Generally positive effects on the community
4	33	Use or development of marginal land (higher land use)
5	31	Increased recreation (in cooling ponds, etc.)
5	31	Regional vs. local needs and values
7	30	Zoning of the affected area
8	28	Scenic areas
9	25	Land needed for waste disposal
10	23	Increased use of lands now in use
10	23	Which unit of government has power in siting decision
12	18	Amount of land used in fuel procurement
13	16	Area of impact/enery produced ratio
14	15	Possibility of land (site) reclamation
15	12	Interpretation of E.I.S.
16	11	Relative safety from long-term land contamination
17	10	Leased-back program of utility
17	10	Marshes and wetlands
17	10	Unique crops of area
20	9	Preservation of historic sites - cemeteries and landmarks
21	8	Insurance for land yield
22	3	Power of eminent domain
23	1	Relocation of like facilities and land

Final Ranking

Rank	Points	
1	60	Safety of local residents
2	52	Disposal of nuclear waste products
3	46	Education and information RE: energy
4	40	Removal of agricultural cropland
5	38	Inequitable tax redistribution
6	37	Availability of water
6	37	Public acceptance and opinion
8	25	Generally positive effects on the community
9	22	Geology and soils of plant site
10	16	Effects on human health
11	15	Effect on local economy
12	13	Effects on plant and animal life
12	13	Temporal and spatial extent of effects
14	12	Water quality (temperature and cleanliness)
15	11	Effects on general tax rate
16	9	Population concentration
16	9	Impact of change in work force
18	8	Use or development of marginal land
19	7	Effects on food supply
20	6	Number of permanent employees
21	5	Scenic areas
22	4	Effect on moves and culture
22	4	Regional vs. local needs and values
24	2	Effect on local land values
24	2	Sufficient support services
26	1	Impact on existing recreational sites
26	1	Zoning of the affected area
28	0	Increased recreation on the site
25	0	Land needed for waste disposal
28	0	Increased use of land now in use
28	0	Which unit of government has power in siting decision

GROUP 3

Biological and Physical

Rank	Points	
1	68	Supply of water adequate for all uses
2	54	Air quality
3	48	Adequate soil and bedrock conditions for nuclear
4	46	Chance of nuclear accident (including transport)
5	38	More factual data on biological effects
6	37	Radiation health effects
7	36	Traffic patterns for service to plant
8	30	Cost vs. benefit of all biological and physical concerns
9	22	Where radioactive waste stored
10	20	Environmental effects of not building plants
11	19	Comparison of radiation from coal, nuclear, geothermal and solar
12	18	Noise pollution in area of plant

Biological and Physical (continued)

Rank	Points	
13	17	Understanding of general radiation vs. power plant radiaion
14	16	Minimal contamination of both groundwater and surface water
15	15	Minimal impact on surrounding areas
16	14	Water table conditions for ash disposal
17	12	Leakage of nuclear wastes
17	12	Rail availability
17	12	Available work force - minimize transportation difficulties
17	12	Properly understood monitoring methods (air and water)
17	12	What are the real problems with waste
22	11	Psychology of fear
22	11	Genetic problems from low level radiation
22	11	Power at risk of human health
25	7	Reconcentrating radiation in wildlife (food chain)
26	3	Better understanding of cancer causing properties of plutonium
26	3	Sabotage of radioactive materials
26	3	Independent monitoring
29	2	Fishing from thermal pollution
30	1	Overall research on physical and biological effects
31	0	Fire hazard near nuclear plants
31	0	There is minimal effect on animal life
31	0	Temperature of water leaving plant
31	0	Are power line poles more unsightly than other tall objects
31	0	Value of term 'pico curie'
31	0	How much land needed
31	0	Better growth of vegetation
31	0	How are plants decommissioned
31	0	Enough water during low-flow

Economic and Social

Rank	Points	
1	51	Increasing cost if more power not produced
2	40	Change tax bill to benefit local area
3	38	Additional power need in 1980
4	32	Acceptable cost-benefit ratio
5	27	Enough electrical supply for agriculture
6	25	Locate near need for power
6	25	Employment and adequate energy interdependence
8	24	Responsible news reporting
9	21	Enough power to attract industy to area
9	21	Healthy economic growth vs. minimal economic growth
11	20	Local community aiding expediting building of plant
12	18	Energy affordable to all
12	18	2nd class status for America
14	16	Economical transportation of fuel and supplies
15	15	Total cost of nuclear vs. coal, including added nuclear needs
15	15	Methods for evaluating between emotional and factural studies
15	15	Agricultural concerns due to radiation
18	13	Priority for use of coal
19	12	Income to local businesses
20	11	Responsible use of 'eminent domain'
20	11	Moral justification of oil and gas use vs. nuclear (other uses nil)
22	10	More work in area
22	10	Regional employment
22	10	Moral issue of responsibility to next generations (nuclear waste)
22	10	Importance of community energy independence
26	9	Effect on local taxes
26	9	Local polarization
28	8	Locate in industrial areas
28	8	Milk contamination by radiation
30	7	Cost of local community support
31	6	Cost of decommissioning
32	5	Local zoning adequate
32	5	Concern over loss of freedom due to nuclear protection
32	5	Forced conservation relative to American freedoms
32	5	Conservation vs. economic growth
36	4	Factual information reported by all media
37	4	Distinguishing sources of radiation
37	4	Inadequate emergency evacuation plans
39	3	Insufficient insurance protection
39	3	Relative cost from each fuel source
39	3	Added cost due to overlapping research
39	3	Better understanding of insurance coverage
43	2	Prime target in case of war
43	2	Limit of controls relative to cost
45	1	Economics of holding environmental standards for coal plants
45	1	Prediction of future energy costs
47	0	Near fuel supply
47	0	Effect on school system
47	0	Smaller coal plants rather than larger for transportation ease
47	0	Priority for use of oil
47	0	Effect on tourism
47	0	Local economic effects of construction period
47	0	Role of electricity in community support services (sanitation, etc.)
47	0	Concern over strip mining

Land Use

1	67	Cost vs. benefit for land use concerns
2	55	Power plant near major load for cogeneration
3	54	Ag. Land preservation
4	44	Highest and best use of land
5	32	Contamination of soil
6	31	Aesthetic plant - including landscaping
7	29	Preservation of historical and archaeological sites
7	29	Compatibility with future land use plan
9	25	Local zoning should not supercede reg regional needs
9	25	Maintain adjacent land desirability for other purposes
11	24	Fly ash disposal (and SO_2 sludge)
12	16	Existing use of area
12	16	Use low population areas
12	16	Effect of lack of energy to agriculture
15	15	Use of buffer zone for farming
15	15	Avoid duplication of transmission line
17	14	Preservation of park lands
17	14	Effect of new roads and railraods on land use

Land Use (continued)

Rank	Points	
17	14	Transmission lines along highways (off ag. land)
20	10	National vs. local needs
20	10	Underground transmission line
20	10	Minimize total land for plant
23	8	Site easily protected
24	7	No nuclear parks (holding waste at generation site)
25	6	Local zoning should supercede regional needs
26	5	Fog problems
26	5	Benefits of warm water - including purification
28	3	Are rural people more expendable
29	2	Smaller spread out coal plants
30	1	Use of scrubbers on coal plants
31	0	Precipitators for particulates
32	0	Hunting and fishing benefits around plant

Final Ranking

1	61	Supply of water adequate for all uses
2	40	Air quality
3	33	Change tax bill to benefit local area
4	29	Adequate soil and bedrock conditions
4	29	Radiation health effects
6	22	Cost vs. benefit for all biological and physical concerns
7	21	Enough electricity supply to agriculture
8	20	Ag land preservation
8	20	Increasing cost if more power not produced
10	19	More factual data on biological effects
11	18	Cost vs. benefit for land use concerns
11	18	Power plant near major load for cogeneration
13	16	Chance of nuclear accident (including transportation)
13	16	Responsible news reporting
15	15	Where radioactive waste is stored
15	15	Locate near need for power
17	14	Traffic patterns for service to plant
17	14	Additional power need in 1980
17	14	Contamination of soil
20	12	Healthy economic growth vs. minimal economic growth
21	10	Highest and best use of land
21	10	Local zoning should not supercede regional needs
23	8	Employment and adequate energy dependence
24	7	Acceptable cost/benefit ratio
25	6	Environmental effects of not building plants
26	4	Preservation of historic and archaeological sites
26	4	Maintain adjacent land desirability for other purposes
28	0	Enough power to attract industry to area
28	0	Compatibility with future land use plan
28	0	Aesthetic plant - including landscaping

GROUP 4

Biological and Physical

Rank	Points	
1	55	Air discharges should not be harmful to human health, vegetation, or animals
2	46	Adequate safeguards for the transportation and disposal of nuclear wastes
3	45	Stringent specifications and safety standards should be used for nuclear plants
4	34	Thermal pollution effects, both on air and water
5	29	More adequate knowledge about the limits of human exposure allowable to toxic substances emitted from the plant
6	24	Possibility for smoke to contain radioactive materials
7	18	Many transmission lines within a particular transmission corridor preferred to multiple corridors
7	18	Potential for decreased water quality due to discharges from the plant
7	18	Danger of explosion at nuclear site - what precautions are taken?
10	17	How do we best address the many tradeoffs connected with these concerns
11	15	Smoke emitted from a coal-fired power plant
11	15	Reduction of recreational activities connected with water (boating, swimming, etc.)
13	14	Adequate safety precautions for coal plants
13	14	Reduction in water table due to use of water by the plant
15	12	Safety questions regarding hydro power (dam failure, etc.)
16	11	Transportation of fuel to the site
16	11	Potential harm to fishing in streams and rivers
18	10	Destruction of natural areas resulting from coal mining in the west
18	10	Using hydro power would increase water supply in an area
20	8	Adequate water supply from the Wisconsin River for use by the plant
21	7	Soil type most desirable for construction of a plant - is there a most desirable soil type (subsoil included)
22	3	Noise pollution
23	1	Coal dust due to emptying coal cars

Economic and Social

Rank	Points	
1	48	Need for adequate power to keep factories and schools operating
2	33	Are the real facts presented in the pro and con debate on future plants
3	31	Taxation of the utility should be adequate to compensate the local governmental units for the increased services (roads, police, schools, etc.) necessary during construction of a plant
4	29	Desire of people in a community for the siting of a plant in that community
5	26	Is one large plant better or worse than many small plants
6	23	Adequate plans should be developed, prior to construction, between utility and local municipality and business community to provide necessary services.
7	22	Safety of the plant
8	21	Potential for social disruption if adequate power is not provided in a timely fashion
9	19	Cost of electric energy, particularly as it affects those on a fixed income or those with particular health needs.
10	16	Potential for urbanization of rural areas
11	15	Put plants as close as possible to the use area, reducing costs, etc.
11	15	Differences between actual future power needs and utility projections
13	13	Would a nuclear plant deter people from moving into an area
14	12	Displacement of population from the site
14	12	Increased taxes due to influx of population when a plant is built
16	11	Changes in property values in a community near the power plant
17	10	Construction of new plant at sites where the additional power could be supplied by upgrading existing units resulting in higher costs to the consumer
17	10	What kind of training will be necessary for plant employees, as well as salary scale. Will the employees be drawn from the local area
19	8	Is the power to be used in the area or will it be sent to other areas
19	8	Storage and transportation of wastes
19	8	Industries, by conserving fossil fuels, will increase their own electrical energy demands
23	7	How many people will be employed by the site
22	7	Would a new plant attract more people to an area
22	7	Reduce governmental restrictions and allow private enterprise more freedom
25	6	Electric rates should reflect the true cost of furnishing service
25	6	Energy sources available to a community, should there be a high dependence on only a few sources
27	5	Security near nuclear plant
28	3	Increased revenue and business provided by additional employees
29	2	Would additional people employed at plant or changes in life-style cut down the existing recreational activities
29	2	Concern about adequate insurance coverage to cover any potential disaster
31	1	Annual efficiency of a power plant
31	1	What type of zoning will be used in the area surrounding a plant
33	0	Will there be more power or less during construction in an area

Land Use

Rank	Points	
1	53	Sharing of information between communities nationwide with similar power plant siting experiences
2	51	Locate on lands of lower value, avoid lands of historic, archaeological or natural beauty value
3	46	Avoid agricultural land
4	34	Recognition of future growth areas in region
5	26	Are there alternatives to transmission lines in long distance transport of large amounts of power
5	26	Adequate protection against pollution of land or rivers
7	24	Transmission lines should be placed to not waste good agricultural land and to allow farmers to farm around them
8	22	Utilities should utilize the property they own before siting plants on land they do not own
9	21	Not to destroy or reduce the scenic quality of lake, river, or stream frontage areas
9	21	How to arrive at the values of land and buildings to compensate displaced owners
11	14	Cogeneration of electricity and steam
11	14	Increased population will mean increased solid waste and sewage disposal problems
11	14	Will the site be landscaped so as to blend into the area
14	12	Preserve the existing sites of historic or archaeological significance
15	11	Fly ash disposal areas should have the same restrictions as DNR presently uses for solid waste disposal areas
16	9	Is there a preference for soil type (including subsoil) for plant location
17	8	Use of waste heat water for heating homes or irrigation of crops
17	8	Compensation to property owners whose lands suffer a reduction in value
19	6	Avoid potential hazard or danger to established local airports in placement of plants
20	5	The amount of land needed for plants and transmission lines
21	4	Urbanization of rural area
21	4	What procedure will be used to change the zoning designation of a potential site if necessary
23	3	Need for roads would mean more land taken

Land Use (continued)

Rank	Points	
23	3	Avoid location of transmission lines near highways
25	0	What consideration is given to the availability of basic building material (sand, gravel, stone, etc.) in the area

Final Ranking

Rank	Points	
1	53	Air discharges should not be harmful to human health, vegetation, or animals
2	43	Need for adequate power to keep factories and schools operating
3	41	Locate on lands of lower value, avoid lands of historic, archaeological or natural beauty value
4	39	Sharing of information between communities nationwide with similar power plant siting experiences
5	31	Stringent specifications and safety standards should be used for nuclear plants
6	30	Avoid agricultural land
7	24	Are the real facts presented in the pro and con debate on future plants
8	17	Is one large plant better or worse than many small plants
9	14	Safety of the plant
9	14	Adequate protection against pollution of land or rivers
11	12	Cost of electric energy, particularly as it affects those on a fixed income or those with particular health needs
12	11	How to arrive at the values of land and buildings to compensate displaced owners
13	10	Thermal pollution effects, both on air and water
13	10	Adequate safety precautions for coal plants
13	10	Recognition of future growth areas in region
16	9	Adequate safe-guards for the transportation and disposal of nuclear wastes
16	9	How do we best address the many tradeoffs connected with these concerns
16	9	Adequate plans should be developed, prior to construction, between utility and local municipality and business community to provide necessary services
16	9	Differences between actual future power needs and utility projections
20	8	Desire of people in a community for the siting of a plant in that community
21	7	Are there alternatives to transmission lines in long distance transport of large amounts of power
22	6	Utilities should utilize the property they own before siting plants on land they do not own
23	5	Taxation of the utility should be adequate to compensate the local governmental units for the increased services (roads, police, schools, etc.) necessary during construction of a plant
23	5	Transmission lines should be placed to not waste good agricultural land and to allow farmers to farm around them.
25	3	More adequate knowledge about the limits of human exposure allowable to toxic substances emitted from the plant
25	3	Potential for social disruption if adequate power is not provided in a timely fashion
25	3	Displacement of population from the site
28	0	Possibility for smoke to contain radioactive materials
28	0	Many transmission lines within a particular transmssion corridor preferred to multiple corridors
28	0	Potential for decreased water quality due to discharges from the plant
28	0	Danger of explosion at nuclear site - what precautions are taken
28	0	Potential for urbanization of rural areas
28	0	Not to destroy or reduce the scenic quality of lake, river, or stream frontage areas

GROUP 5

Biological and Physical

Rank	Points	
1	45	Health effects on food chain (aquatic and land)
2	40	Air pollution (fly ash, SO_2)
3	37	Water contamination
4	33	Radioactive and toxic emissions from nuclear power plants
4	33	Disposal, transportation, etc., for nuclear waste
6	27	Soil contamination
7	25	Effects on future generations: genetic and natural resource depletion
7	25	Health effects on people
7	25	Solid waste disposal problems
10	24	Is the nuclear plant safe
12	20	Geology of the area
12	20	Transmission line effects - land, plants, animals, people
14	19	Cleanliness (soot)
15	17	Noise
16	16	Effect of groundwater table depression
17	15	Water and food in Wisconsin (area devoted to...)
18	13	Effects on remnant wildlife populations (endangered species, etc.)
19	12	Thermal pollution
20	11	Physical effects of increasing transportation in area (coal, workers, etc.)
21	10	Humans as storers of radioactive wastes
22	9	Culpability (victims) public health
22	9	Effects of misting from cooling towers on health, safety, welfare
24	8	Displacement of ag lands
24	8	Cracks in rock formations (nuclear effects)

Biological and Physical (continued)

Rank	Points	
24	8	Location near accident prone areas (e.g., airports)
24	8	Population density
28	7	Scenic effects
28	7	Impacts on domestic animals
28	7	Utilization of waste heat
28	7	Priorities of water use
28	7	Public health services for contingencies
33	6	Impact on specific area industries: potato, cranberry and dairy

Rank	Points	
33	6	Special effects on risk persons - need for research
35	5	Woodlots
36	3	Water volume
36	3	Ecologically fragile areas (e.g., wetlands)
38	2	Effect of drought - who gets water
39	0	Emotional effects on people
39	0	Radiation effects on workers - (mining through everything)
39	0	Effect on drinking water
39	0	Compensation for victims

Economical and Social

Rank	Points	
1	70	Implementation of comprehensive energy conservation program
2	42	Economic and social benefits of more widely dispersed smaller power plants using indigenous fuel sources
3	39	Insure adequate energy for reasonable economic growth
4	34	More money into solar and other alternative energy sources
5	32	Don't like new tax law (local government no longer benefits. Need economic incentive)
6	31	Effects on health (physical and mental)
7	30	Encourage municipal plants - moratorium on large private ones
8	26	Lowest cost generation per kw
9	23	Need tax and/or incentives for alternative energy sources (private sector)
10	22	Nuclear power plant security costs (will users pay?)
10	22	Benefits of using waste heat
12	21	Cost of evaluation and resettlement of people irradiated and land decontamination costs
14	20	Striving to achieve energy independence (US and Wis)
15	19	Increased cost of public services (police, fire, schools, etc.)
16	18	Provide for employment (short/long term)
17	15	Why are rural areas expendable?
17	13	Effect on housing (temp and perm) availability, etc.
17	13	Need more global thinking (air, etc., is worldwide)
20	11	Cost of transportation: fuel in and wastes out
20	11	Public information availability and information for public interest research

Rank	Points	
21	10	Economics (cost) of pollution control devices (scrubbers, etc.)
21	10	Individual responsibility for energy use and generation
21	10	Adequate insurance for nuclear plants (not the plant - but people)
21	10	Future generations insurance (nuclear)
26	9	Improve area tax base
26	9	Willingness of area to adopt and enforce air and water quality controls
26	9	Occupational and safety admin. (OSHA) doesn't cover nuclear ques
29	8	Land reclamation
30	5	Effects on roads, highways
30	5	Effects of closing businesses in area (compensation)
30	5	Employment of getting raw materials (miners, truckers, RR, etc.)
30	5	Economic ceiling on growth
30	5	Not many sites available for nuclear--coal, etc., can be sited in many more places
35	4	Decrease in area land values
36	3	Effects on shopping and recreation facilities
37	1	Fuel supply for nuclear plants (going into plutonium economy)
38	0	Importing construction workers from outside area (transient workers)
38	0	Compensation for displaced individuals and localities
38	0	Loss of food from using ag land

Land Use

Rank	Points	
1	57	Preservation ag and wetlands
2	48	People forced to sell land
3	39	Synergistic effects of thermal chemical and radioactive pollution
3	39	Power plants sited where needed - avoiding transmission lines
5	37	Impact of lowering water tables or surrounding land uses
6	36	Does plant siting fit local zoning/land use plans
7	31	Periodic review of land use policies
8	27	Location of plant away from prime amenity areas (wildlife...)
10	24	Ag land contamination and reclamation

Rank	Points	
11	22	Land development controls (plant and additional development)
11	22	More research on undergrounding transmission lines
13	21	Decommissioning of power plants - how long does land remain unusable, including use of land for waste storage
14	20	(Rural) country - too much people feed produced cities - too many people. Therefore, can't have nuclear power plants
15	19	Land is sacred trust for future generations.
16	16	Condemnation of renewable resources (wood, ag land, etc.)

Land Use (continued)

Rank	Points	
17	14	Land around plant should be used for public benefit (e.g. parks)
17	14	Use of public lands for power plants
19	11	Mineral value of the land used for siting (cemeteries and small burial grounds)
20	7	Historical and archaeological sites
21	6	Housing impacts-mobile home park proliferation
22	2	Property value fluctuations (up/down)
23	0	Land consumption of nuclear parks

Final Ranking

Rank	Points	
1	70	Implementation of comprehensive energy conservation program
2	62	Health effects on food chain (aquatic and land)
3	39	More money into solar and other
4	38	Effects on future generations: genetic and natural resource depletion
4	38	Preservation of ag land and wetlands
6	22	Solid waste disposal problems
7	20	Nuclear power plant security costs (will users pay?) Inc. loss of civil liberties
9	19	Radioactive and toxic emissions from nuclear power plants
10	17	Air pollution (fly ash, SO_2)
10	17	Synergistic effects of thermal, chemical and radioactive
16	16	Does plant siting fit local zoning/land use plans?
13	13	Insure adequate energy for reasonable economic growth
13	13	Power plants sited where needed - avoiding transmission lines
15	12	Groundwater contamination
15	12	Economic and social benefits of more widely dispersed smaller power plants using indigenous fuel sources
17	8	Don't like new tax law (local government no longer benefits - need economic incentive)
17	8	Periodic review of land use policies
19	7	Is the nuclear power plant safe
20	6	Impact of lowering water tables on surrounding land uses
20	6	People forced to sell land
22	5	Effects on health (physical and mental)
22	5	Disposal, transportation, etc., for nuclear wastes
24	4	Location of plants away from prime amenity areas (wildlife, etc.)
24	4	Impacts of long distance, high voltage transmission lines
24	4	Ag land contamination and reclamation
27	3	Encourage municipal plants-moratorium on large, private ones
28	2	Lowest cost generation per kw
29	1	Soil contamination
30	0	Need tax and/or incentives for alternative energy sources (private sector)
30	0	Benefits of using waste heat
30	0	Health effects on people

GROUP 6

Biological and Physical

Rank	Points	
1	27	Particulate emissions
2	43	River water and groundwater draw down its effect on water quality
3	42	Residual waste disposal
4	37	Water contamination of flowage waste water enters
5	29	Health effects from electromagnetic radiation from transmission lines
5	29	Size of area needed for power plant
7	24	Effects on natural vegetation
8	23	Need for more energy
8	23	Proximity to urban centers
10	22	If power plant fails, danger to the public
10	22	Displacement of business or perople
12	19	Removal of fly ash for stack gas
12	19	Relation to prevailing wind direction
12	19	Sulfur dioxide emissions and nitrous oxides
15	18	Concentration in the food chain
16	15	Economic effect on various agricultural products produced. Will local crop values decline
17	14	Loss of wetlands
18	12	Preservation of natural resources by power plant
19	11	Impact on aquatic life by temperature of discharging water
19	11	Noise - by plant, truck, etc.
19	11	Noxious odors
22	9	Accurate pre-construction monitoring - base line studies
22	9	Amount of food products increase due to electricity available for irrigation
24	8	Erosion of soil during construction
24	8	Loss of unique areas
24	8	Destruction of critical wildlife habitat
27	7	Impact of spraying vegetation under power lines
27	7	Impact of obtaining fuel
27	7	Impact of emergency evacuation plans
30	5	Increase of aquatic life
31	2	Impact on crime rate
31	2	Relocation of residents who will move if a nuclear plant is sited in an area
33	1	Impact on tourism
33	1	Loss of scenic value
35	0	Health effects on those most prone to low level radiation

Economic and Social

Rank	Points	
1	47	Number of local people employed
2	43	Cost of providing public services
2	43	Impact on tax base, tax sharing
4	38	Need for energy now
5	35	Hazards to health of local residents
6	29	Impact of cost of energy at consumer end
7	28	Who gets the energy
8	14	Insurance protection -- who is liable for disaster
8	14	Trade off between power plants and paper mills
8	14	Cost of plant in relation to amount of energy produced
11	12	New manufacturing moving into local area
11	12	Decrease in social programs because of stronger economic base
13	11	Jobs increased
13	11	Disruption of community social order due to influx of new residents from construction
15	10	Concern with overregulation by agencies of local residents and of power plant
15	10	What happens after the plant has finished operation
17	9	Relocation of residents who do not wish to live near facility
17	9	Number of new people moving into area for operation of the plant
19	7	Economic effect on current energy providers
19	7	Economic effect after construction workers leave
21	6	Competition for capital investment dollars
22	5	Tourism as the result of the plant
22	5	Federal protection force
24	4	Psychological aspect of people having land taken by power plant
24	4	Assisting in maintenance of present standard of living
26	0	Impact on recreation

Land Use

Rank	Points	
1	50	New industry as a result of more power
2	36	Loss of prime agricultural land
3	34	Groundwater might be polluted by ash pit - domestic wells will be contaminated precluding residential use of the land
4	33	Change in entire land use patterns
5	31	Permanent encasement of nuclear power plant after its life is finished
5	31	Can land be used for radioactive waste disposal.
7	29	Effect on local land values
8	28	Using land for transmission lines - use existing corridors
9	26	Trailer courts, poor housing, as a result of construction boom
10	21	Power plants are a good use of the land
11	20	Increase in agricultural land use caused by increased availabity of power
11	20	Use of land for new railroads
13	19	Federal or state restrictions on residential use of land near nuclear facilities
14	15	Protection of wetlands
14	15	Loss of recreational areas
16	14	Need for new roads
17	13	Loss of land for future business use
18	11	Amount of land utilities own now, or will possibly own. Concern with large land holdings
18	11	Should the site be used as a solar energy site
20	9	Creation of new recreation sites
21	7	Need for land use regulation, where none exists
21	7	Use of area after life of coal-fired power plant is finished
23	6	Do engineers know what they are talking about
23	6	Will there be a change in the geographic character of the land
25	3	Appearance of the power plant - how does it affect the scenery

Final Ranking

Rank	Points	
1	54	Need for more electrical energy now
2	36	Radioactive waste disposal
3	35	Health hazards to the general public
4	34	River water and groundwater draw down
5	33	Particulate emission
6	32	Who gets the energy
7	23	Impact on tax base - is the tax-sharing system fair
8	21	Cost of providing public service
8	21	Groundwater be polluted by ash pits - impact on domestic wells
10	19	Number of local people employed
10	19	Water contamination of flowage that surface water enters
12	17	New industry as a result of more power
12	17	Effect on local land values
14	15	If power plant fails, danger to population
14	15	Impact of cost of energy at consumer's end
16	13	Size of area needed for power plant
17	12	Loss of prime agricultural land
17	12	Effect on natural vegetation
19	10	Displacement of people or business
19	10	Permanent encasement of nuclear power plant after its life is finished
19	10	Trailer courts, housing as a result of construction

APPENDIX E

SHEBOYGAN WORKSHOP

GROUP PARTICIPANTS

Group 1

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Arden Koehler
Harold Petrick
Carl E. Erbstoeszer

Leader: Elin Quigley

GROUP 1

Biological and Physical

Rank	Points	
1	51	Health concerns - cumulative radiation - cancer, and effect of other toxic materials, SO_2
2	34	Need for plant should be determined
3	31	Increase the energy efficiency of plants, thereby decreasing environmental effects
4	28	Effects of increased radiation in immediate area
5	26	Adequate supply of water
6	24	Effects of radiation in agricultural products
7	23	Regional maintenance of water quality - cumulative effects on several sites
8	22	Type of land used - excellent farmland or wasteland
9	19	Temporary storage of waste materials in water and leakage of radioactive waste into water
10	14	Man-made alterations of local climate - effects of cooling towers and ponds - fogs
10	14	Density of population in area and in relation to distribution of energy
10	14	Long term economic effects on townships of plant construction and operation
13	11	Availability of good transportation. Put in area with existing roads
13	11	Impact of cooling water on aquatic life in general positive or negative
15	10	Storage of nuclear wastes
15	10	Use presently owned sites for experimentation with alternative (less environment harmful) energy production methods
17	8	Availability of type of fuel used in the area
18	6	Use areas that will affect wildlife habitat the least
18	6	Market for product (electricity)
18	6	Use of high-sulphur coal in plants
18	6	Should utilize by-products
22	5	Recreational and historical values of shoreline properties
23	3	Changes in lake temperature
24	2	People displacement - off the site
24	2	Effect of weather (temp.) on water temperature w/relation to cooling requirements
24	2	Discouragement of residential and business development in area
27	1	Wildlife leaving the area becasue of unhealthy conditions
28	0	Change in fishing quality - positive or negative

Economic and Social

Rank	Points	
1	55	Consideration of future and worldwide energy needs for many generations
2	54	We need more energy conservation and education program on individual basis
3	25	Regulatory atmosphere of agencies - time and procedures
3	25	Special government costs related to transportation and safety
5	24	Effects on existing economic and social structure of large land acquisition
6	20	Justification for power plant on basis of 3rd party projections of consumer demand
7	19	Loss of agricultural land
7	19	Lower cost of power (electric) for residential use
7	19	Social and environmentally acceptable deep underground storage sites
10	15	Cost and availability of uranium
11	14	Interference with ecocycle
12	13	Closeness of plant to energy market (biggest percent of market)
13	12	Financial benefit or expense to community
13	12	Effect on employment in area
15	11	Effects on social and economic life of community of disputable facility
16	10	Balance between utility tax structure & environmental concerns
17	9	Power line right-of-way alternatives possible? (burial)
17	9	Steady employment and stabilizing economy of area
17	9	National economic worth of the plant vs. unaltered site
20	8	Discouragement of residential and business development
20	8	Temporary alteration of housing needs and costs - during construction
20	8	Loss of business for housing contractors after plant construction (safety fears)
20	8	Be sure to have enough power for the area
20	8	Increased area income through construction and operation, bolsters local economy
25	7	Better rate for industry in area
26	5	Decrease in value of farmland due to radiation
26	5	Changes in community style of living
28	4	Decommissioning of nuclear power plant - cost and responsibility
29	2	Possibility of tax benefits to the area
29	2	Effects on wildlife (hunting and fishing)
31	1	Nuclear safety features - adequate or excessive
31	1	Improved recreation facilities
31	1	Change in physical layout of area (streets and parks)
34	0	Active life of power plants. What is it?
34	0	Inflationary impact of higher-salaried construction workers in rural area
34	0	Loss of recreational and historical shoreline property
34	0	Loss of public access to shorelines

Land Use

Rank	Points	
1	47	Conservation of existing resources
2	37	Earlier citizen involvement in land use issues, siting and licensing
3	36	More emphasis on solar energy
4	32	Minimum use of the highest quality ag land
5	29	Maximize power output from each plant (fewer plants)
6	28	Build plants on poorest quality land possible
6	28	Utilization of waste products for fuel
8	26	Need for regional plan first - before selection of individual sites
9	21	Concern over concentration of plants around Lake Michigan
10	19	Security, terrorism, sabotage
11	16	Emphasis on use of fuel cells (for energy which solar couldn't provide)
12	15	All property of utility should be used (timber or crops)
13	11	Exercise soil and water conservation
13	11	Scenic and land use impacts of transmission lines
15	10	Effects on value of farmland
15	10	Educating lay people quickly (spread technical expertise)
17	8	Radiation to farmland and farm animals
18	7	Consideration of land-use problems for support facilities and activities
18	7	Encourage public relations between power company and area residents
20	6	Rate payers shouldn't have to absorb costs of siting changes and liability insurance
20	6	Institution of "Town Hall"
20	6	Keep plants least visible
20	6	Plant workers - exposure to radiation
20	6	Storage of wastes from other plants and areas
25	5	Effects of radiation on transient workers (repairmen)
26	4	Should locate plant in forest areas
27	2	Protection of wildlife on plant property
28	1	Architecture should complement area
20	0	Prevention of change of site alter approval
29	0	Zoning opportunity (surrounding area could be limited industry)
29	0	Use of plant land for educational purposes (tours, etc.)
29	0	Location of market

Final Ranking

Rank	Points	
1	52	Health effects - i.e., of cumulative radiation and effects of other toxic materials
2	38	Conservation of existing resources
3	35	More conservation measures and educational programs
4	31	Consideration of future and worldwide energy needs - for many generations
5	25	Minimum use of highest quality agricultural land
6	22	Increase the energy efficiency of plants - thereby decreasing the environmental effects
6	22	Adequate supply of water
6	22	More emphasis on solar energy
9	20	Type of land used - excellent farmland or wasteland
9	20	Earlier citizen involvement in land use issues in siting and licensing
9	20	Maximize power output from each plant - fewer plants
12	19	Temporary storage of waste materials in water and leakage of radioactive wastes into water
13	17	Utilization of waste products from area
13	17	The need for plant should be determined
15	14	Loss of agricultural land
16	11	Regional maintenance of water quality - cumulative effects of several sites
17	10	Need for regional plant first before selection of individual sites
18	7	Man-made alterations of local climate, effects of cooling towers and ponds - fogs
18	7	Need justification for power plant on the basis of 3rd party projections of consumer demand
20	6	Socially and environmentally acceptable deep underground storage sites
21	5	Effects of increased radiation in the immediate area
21	5	Cost and availability of uranium
23	4	Build plants on poorest quality land
23	4	Regulatory atmosphere of agencies - costs, time, and procedures
25	3	Density of population in area in relation to distribution of energy
25	3	Special government costs related to transportation and public safety
27	2	Security - terrorism and sabotage
28	1	Effects on existing economic and social structure of large land acquisition
29	0	Effects of radiation on agriculture production
29	0	Long-term economic effects on townships of plant construction and operation
29	0	Lower cost of power (electric) for residential use
29	0	Concern over concentration of plants on Lake Michigan

GROUP 2

Biological and Physical

Rank	Points	
1	47	Disposal of nuclear and coal wastes
2	33	Depletion of agriculture used for land
3	31	Radiation exposure to humans and the ecosystem and food
3	31	Change in air quality as a result of the addition, relative to present air quality
5	30	Preservation of natural areas

Biological and Physical (continued)

Rank	Points	
6	29	Maintaining and improving the integrity of the Great Lakes
7	21	Effect on aquatic life, plants, fish, etc.
8	20	Local climate patterns (wind, humidity, temperature)
9	18	Preservation of wetlands
10	16	Soil suitability for agriculture
10	16	Interference with wildlife and botanical habitation, especially if near the mouth of a creek or river
10	16	Effective control and use of heat generated
13	13	Water quantity availability for cooling
13	13	Preservation of unique geologic features like dunes, moraines
15	12	Ability of water body to disperse heat
15	12	Possible depletion of well water in the area of the site
15	12	Supply of pure drinking water
18	11	Carbon dioxide concentrations in the atmosphere
19	10	Safety of any power source
19	10	Could the site be reclaimed for any other use after the plant becomes obsolete
21	9	Population density
21	9	Underground rock formations of the area
23	5	Drainage problems caused by increased impermeable surface area
24	4	Increased sedimentation in our lakes and streams caused by stripping of vegetation in plant construction
25	3	Transportation access to the plant
25	3	Stability of shoreland bluff areas
27	2	Discharge of chlorine and other water pollutants from treatment of intake water
27	2	Increase in noise pollution due to the transport of fuels
29	1	Indirect consequences to other areas due to construction of facilities
29	1	Preservation of woodlands
31	0	The aesthetic beauty of the area
31	0	Entrainment and entrapment of fish from cooling water source
31	0	Sulphur pollutants from coal-fired, both inhaled and ingested
31	0	Types of cooling methods to be used
31	0	Changes in longshore currents
31	0	The anxiety produced by people by the "uncertainty" of nuclear power plants
31	0	Changes in ice cover patterns
31	0	Increased concentration of particles in the air and resulting fallout on the area
31	0	Increased strontium-90 in milk supply

Economic and Social

Rank	Points	
1	31	The ability to meet the power "needs" by energy conservation measures rather than construction of power facilities
2	23	The various availabilities and costs of fuels
2	23	Loss of productive farmlands to power plants and transmission lines
4	22	Health and safety concerns of people living near a nuclear plant
4	22	The technological ability to meet power needs by alternative sources of energy
6	21	Moral responsibility to future generations
7	19	On site storage of nuclear wastes
8	16	The need for an ample energy supply to provide jobs and reduce unemployment
9	15	Costs/benefits of environmental protection equipment and systems to the public
9	15	Depletion of fossil fuels which prevents utilization by future generations
11	14	Support of public opinion. The will of the people should rule
12	13	Shift from scarce fuels to electricity
13	12	The effects on recreational use of adjacent lands and waters
13	12	Cost advantages and flexibility of nuclear power
15	11	The impacts of a large labor force during construction
15	11	Need for a detailed environmental impact statement
17	10	The large capital investment in high technology - intensive low labor intensive power facilities
17	10	Early research for preservation of historic sites of building
19	9	Impact of land values adjacent to the proposed site
17	9	Preserving the physical features that were instrumental in establishing the cultural heritage of the area
19	8	The anxiety produced in people to live or work in the immediate area of nuclear plants
19	7	Aesthetic beauty of the area
21	7	Stimulation of forms of economic growth unsuitable to the area
22	7	The political climate's lack of coordination between different government levels
22	7	The tax impacts of power plant siting
22	6	The inability to hold protest groups accountable for future power deficiencies
22	5	Reduction of access to the shoreline
26	4	Routing of nuclear waste transport
27	4	The effect on the agricultural community
28	2	Housing needs due to increased population during and after construction
28	2	Nuclear more expensive in long term
30	1	Streamline the avenues of protest to reduce costs
30	0	Terrorism and sabotage of nuclear
32	0	The ability of existing roads to handle increased traffic
33	0	Disruption caused by transportation of fuel
33	0	Increase of public service needs to the community
33	0	Political and technical restrictions to reprocessing nuclear wastes
33	0	The impact of cost of water for household use and other industrial purposes
33	0	Direct employment opportunities before, during and after plant construction
33	0	The impacts of energy intensive industries locating near power plants

Economic and Social (continued)

Rank	Points	
33	0	Price-Anderson act limiting utility and government liability to nuclear accidents
33	0	Balancing increased health care costs due to power plant pollution against power plant benefits

Land Use

Rank	Points	
1	55	Preservation of ag land
2	33	Need to locate power plants close to power users
3	27	Coordination of site selection process with community planning
4	26	Land impact of transmission line facilities
5	24	Need for and compliance with effective zoning and other land use regulations
5	24	Need for comprehensive environmental studies in waste disposal selection
7	19	Preservation of natural physical features that was instrumental in establishing the cultural heritage of the area
7	19	Protection of wetlands and woodlands and coastal area
9	18	Disruption of land during mining or disposal of elements used in the fuel cycle
10	16	Potential for multiple use of transmission corridor
10	16	Effect of nuclear plant on land use for recreational purposes
12	15	Early research and preservation of historic sites and buildings in the site area
12	15	Preservation of scenic shorelines
12	15	An aesthetic approach to the design of new power plant facilities
15	11	Beauty of the area and other aesthetic and scenic values which might be affected
16	10	Plant site location in sparsely populated areas
17	8	The need for landowners in the area to establish a resource conservation plan with the soil and water conservation district
18	7	Consider findings from research on the archaeological study of the area
19	5	Effective erosion control compatible with adjacent areas
19	5	Potential for land reclamation after site becomes obsolete
19	5	Review process of land condemnation by eminent domain in order to protect neighboring land ownership
22	4	Land use implications of potential nuclear accidents
22	4	Energy parks versus distributed plant sites
24	0	Protection of adjacent land from plant encroachment

Final Ranking

1	31	Radioactive exposure to humans and the ecosystem and food
2	29	Depletion of agricultural use for land
3	24	Costs/benefits of environmental protection equipment and systems to the public
4	19	The technological ability to meet power needs by alternative sources of energy
5	18	The ability to meet power "needs" by energy conservation measures, rather than construction of power facilities
6	17	Disposal of nuclear and coal wastes
7	14	Presentation of natural areas
8	13	The need for comprehensive environmental studies in waste disposal selection
9	11	Moral responsibility to future generations
10	10	The need for an ample energy supply to provide jobs and reduce unemployment
10	10	The various availabilities of costs of fuels
10	10	Need to locate power plants close to power users
13	9	Preservation of natural physical features that were instrumental in establishing the cultural heritage of the area
14	8	Maintaining and improving the integrity of the Great Lakes
14	8	Soil suitability for agriculture
16	7	Coordination of site selection process with community planning
17	6	Interference with wildlife and botanical habitation, especially near the mouth of the creek or river
17	6	Need for and compliance with effective zoning and other land use regulations
19	5	Change in air quality as a result of the addition, relative to present air quality
19	5	Depletion of fossil fuels which prevents utilization by future generations
19	5	Land impact of transmission line facilities
22	4	Potential for multiple use of transmission corridors
23	3	Effect of a nuclear power plant on land use for recreational purposes
24	2	Effect on aquatic life, plants, fish, etc.
25	1	Preservation of wetlands
26	0	Local climate patterns (wind, humidity, temperature)
26	0	Effective control and use of heat generated
26	0	On site storage of nuclear wastes
26	0	Protection of wetlands and woodlands and coastal areas
26	0	Disruption of land during the mining or disposal of elements used in the fuel cycle

GROUP 3

Biological and Physical

Rank	Points	
1	62	(1) Accidental release of nuclear wastes to human environment (2) Radiation escape - routine or accidental; sabotage (3) Safety protection against runaway reaction, vandalism, crime, sabotage
2	53	Long term waste disposal needs (area, acres, groundwater impacts) and containment (both coal and nuclear)
3	41	(1) What happens to nuclear plant when fuel runs out or plant retired (2) Fuel supply for company
4	34	Heavy vapor emission - cooling towers, fog, driving, health effects, building damage
5	33	(1) Air pollution - high level and cumulative low level (2) SO_2/O_3 emissions - affects plants, animals, humans
5	33	(1) Transmission lines - static, TV and radio interference (2) Put power poles along fences, roads, not across fields
7	26	Long term availability fuel and impact of obtaining fuel-strip mining
8	17	Animals - including people and plants - food, trees preservation - danger from nuclear aid
9	16	Far from population
10	15	Transportation of nuclear wastes to and from processors
11	14	Not in geophysical fault area. Entombment - long term problem. Obsolete plant - what happens
11	14	Cumulative human life effects from low level radiation. Genetic effects. Future generations too

Rank	Points	
13	13	Protect animals and plants during construction and operation phases
13	13	Power plant as close as possible to users to maintain quality of life we have
15	12	Use community water, sewers
16	11	On communities - energy available or not. What if we don't have energy
17	8	Warm water discharge on inland (not Lake Michigan) water
17	8	Thermal problems: land, water, air
17	8	Health of operators, maintenance and repairs. Nuclear, mining, manufacturing nuclear, and coal mining - including nuclear breeder. Health of coal plant workers too.
20	6	Food chain radiation buildup
21	5	Effect on aquatic life of plant discharges on natural environment
22	4	Best pollutant controls on coal, on mining, storing, burning. Best health and accident protection
23	3	Radiation contamination carried by Great Lakes elsewhere
24	1	Juxtaposition of warm water and sanitary sewage discharge points
25	0	Impact - mutation and heat on organisms in water - future impact
25	0	Put on Lake Superior instead of Lake Michigan - Milwaukee and Chicago affecting Lake Michigan
25	0	Warms Lake Michigan for swimming
25	0	Land contamination from radioactive particle buildup

Economic and Social

Rank	Points	
1	28	(1) Cost of impact on services - fire, police, water, sewer, streets and highways (2) Affect on local taxes +/or -
2	22	(1) Economic effect of nonexpansion of power per capita and to replace existing power plants as they age (2) Prevention or modification of lower standard of living by meeting energy needs
3	18	Cost of building nuclear vs. coal. Hidden nuclear costs - size of area, entombment, require more area, etc.
4	17	Land values
4	17	Why not substitute solar or wind power
6	15	Availability of power accelerates growth - attracts population - affects quality of life
7	14	Increased employment directly and indirectly linked to plant
7	14	Lessen dependence on other forms of energy that may be running out or becoming more expensive
9	13	Bring in new industry
9	13	Cogeneration - sell steam and electricity (use 60% fuel energy)
9	13	Increase community tax base
9	13	Provision radioisotopes for pharmecutical, industry, safety devices, hospitals

Rank	Points	
13	12	Short term housing and school requirements
13	12	Terrorism and sabotage - making bombs, contamination (air, land, water) threats as a social problem
15	10	Keep more tax money in county
15	10	Moral and social effect of people concerned only with energy needs and not concerned about negative effects
16	9	Relatively short life nuclear plant - cost caretaker responsibility to future
16	9	Use warm water for fish hatchery (on shore) or perch in tanks. Tags on fish - commercial limits and sports limits on catch
16	9	Energy conservation and alternate sources - less reliance on electricity and less depletion of resources and funds diverted for alternate sources
16	9	Economic and social consequences of mutation and genetic effects and of land contamination-radiation, gen. effects - man, plants, animals
16	9	Education needs - training technicians for power plant and new industry
21	7	Keep people informed
22	6	Need? Balance conservation and efficiency against additional facilities
23	5	Conservation of energy hard as build more and more power plants

Economic and Social (continued)

Rank	Points	
23	5	Social problems (crime, delinquency, alcoholism, etc.) in boom town areas near mining
25	4	Plant trees instead of cropland near plant - land owned by company
26	3	Use heat for district heating
27	0	Effect on local business and/or -
27	0	Effect of capital intensive giant in area. Proper taxation - Two Creeks
27	0	Insurance costs - local
27	0	Locate in north near labor supply
27	0	Power lines underground
27	0	Growth may occur where growth not wanted

Land Use

Rank	Points	
1	40	Effect of transportation of fuels and wastes on land
1	40	(1) Land impact of transmission lines (2) Aesthetic impact of transmission lines. Ecosystem impact of transmission lines (wetlands and woods). Therefore, power plants should be closer to users
3	35	Strip mining ravages land
4	27	Land modification/disturbance by waste disposal
5	26	Stay away from ag land and historical sites and natural beauty areas including historical stores of Lake Michigan
6	25	Use some land as park or camping area. Multiple use facilities on power company land-natural, hunting
7	22	Restore drainage and waterways
8	21	Relocation of people from power plant site
9	19	Increased population in area possibly unprepared for it (land use planning)
10	18	Scenic value of cement covered nuclear power plant for 200 years after 40 years operation
11	15	Concern over detrimental effect energy has on land use by industry in the vicinity of power plant
12	14	Nuclear - lose land from ecological system, from emotional needs (scenic values), farmland and lowered water table
13	12	Protecting wildlife habitat
14	9	Coal uses less land
15	7	Have city school kids plant trees and shrubs

Final Ranking

Rank	Points	
1	39	Long-term waste disposal needs - area (acres and groundwater) and containment - both nuclear and coal
2	32	Radiation excape - routine or accident to human environment, safety protection from runaway reaction or sabotage vandalism
3	24	Economic effect of non-expansion of power plants. As population grows - amount per person and to replace old units. Prevention or modification of lowering standard of living by meeting energy needs
4	19	Effect on local taxes; cost of impact on services - fire, police, water, sewer, streets and highways
5	18	Why not substitute solar or wind power
5	18	Land values
7	17	Heavy vapor emissions - cooling towers. Fog - driving safety, health effects, building damage
7	17	Lessen dependence on other form of energy that may be running out or becoming more expensive
9	14	Bring in new industry
9	14	Transmission lines - aesthetic and ecosystem impact - put plants closer to users
11	11	What happens to nuclear plant when fuel runs out or plant is retired
11	11	Air pollution - high level and cumulative low level of SO_2/O_3 emissions - effect on plants, animals and man
11	11	Long term availability of fuel and impact of obtaining fuel/strip mining
11	11	Animals (including people) and plants - food and tree preservation - danger from nuclear and air emissions
15	10	Cost of building nuclear vs. coal. Hidden nuclear costs - size of area, require more area, size reserve, entombment
15	10	Provision radioisotopes - pharmaceuticals, industry, hospitals, safety
17	9	Increase community tax base
18	8	Transportation of nuclear fuel and wastes to and from processors
18	8	Strip mining ravages land
20	6	Availability of power, accelerate growth, attract population, affect quality of life
20	6	Relocation of people from site
22	5	Cogeneration - sell steam and electricity
23	4	Increased employment directly and indir indirectly linked to plant
23	4	Land modification - waste disposal
25	3	Transport fuel and waste
26	1	Avoid agricultural land, historic sites, scenic areas
27	0	Transmission lines - static: TV and radio interference, and poles along fences or roads, not across fields
27	0	Far from population
27	0	Multiple use land on site - camps, hunting, natural area
27	0	Increased population in unprepared area - land use plan
27	0	Scenic value: concrete covered plant for 200 years after 40 years use
27	0	Detrimental effect of industry near power plant on land

GROUP 4

Biological and Physical

Rank	Points	
1	41	Danger of radioactivity getting into food chain and water table
2	34	Coal - possibility of endangering earth's ozone layer
3	31	Possibility of radiation
4	30	Disposal - utilization of energy waste
4	30	Airborne emissions' effect on plants, animals, and humans
6	29	Effects of plants and transmission lines on breeding and migration habits
7	26	Effect upon communities' drinking water
8	25	Isolating land used for nuclear waste disposal from biosphere
8	25	Effect on water temperature
10	24	Disposal of sulphur compounds
11	22	Safety
12	21	Returning high temperature water into lake
13	18	Water and air pollution
14	17	In the case of nuclear plant, building back-up unit that may endanger more of the environment
15	15	Aquatic life in Lake Michigan
15	15	Heat island effect (associated with group of plants)
17	14	Overabundance of marine life attracted to the area
18	13	Long term deterioration of containers
19	10	Life in general

Economic and Social

Rank	Points	
1	29	Inadequate tax incentives for community involved
2	26	Hidden cost associated with construction of nuclear power plant (entombing plant)
2	26	Insurance companies will not insure home owner or business in vicinity of power plant (in case of major, nuclear accident)
4	23	Effect of new industry locating in area
5	21	Raising employment
6	20	Cost of building and operating plant is much greater than conservation or more efficient use of energy
7	19	Price-Anderson act diminishing utilities liability in case of nuclear accident
8	18	Possibility of greater electric energy in area
8	18	Housing construction workers
8	18	Provides energy for now and future thus insuring retention of jobs at local, statewide area (midwest), thus relieving burden of oil at this time
8	18	Potential loss of revenue for farmers whose products may be contaminated from radioactivity getting into food chain
12	15	Locating plants in rural areas reduces opportunity to provide heat for homes and industry
13	14	Expanded economy of the area
13	14	Possible loss of population living in proximity to a plant
13	14	Social-aesthetic costs of losing natural areas like wetlands, forests and shorelines
16	13	Creates the need for additional service business to serve needs of added laborers in labor market, thus ensuring jobs and businesses (creating service type businesses)
17	11	Improve fishing from warm water discharge
18	10	Tax cost of building plant not usually incurred by community that is not major user
19	9	Loss of efficiency in transporting power over long distances
19	9	High cost of uranium
21	6	A drain on recreation
21	6	Entombing plant would take productive land out of use for many years
21	6	Social problem that accompanies bringing in labor force, exposing them to larger doses of radiation in very short times.
24	5	Increasing local labor costs while plant under construction
24	5	Duration of a nuclear plant
26	4	Nuclear plant would provide few low-level jobs - coal plant would provide more
27	2	Large plant using up an area's air quality standard (level)
28	0	Cost of road construction
28	0	Transportation congestion - construction operation
28	0	Influx of undersirables in work force during construction
28	0	New nuclear plants are less efficient than old plants because they are so large(?)
28	0	Transportation problem in bringing in coal

Land Use

Rank	Points	
1	32	Condemnation proceedings used to acquire land are not fair to landowner
2	31	Land recovered from strip mining is not as productive as before. Mine tailings from uranium mines leaves land unusable
3	30	Cannot count on geological stability of sites chosen for permanent disposal of nuclear waste
4	28	Plant would improve business climate of area
5	25	Problem of using prime agricultural land for facilities rather than locating in industrial area
6	22	Takes least farmland out of production, but provides the land and water facility for an energy plant that is much needed

Land Use (continued)

Rank	Points	
6	22	Storage of waste would adversely affect land values
6	22	Strip mining - ugly
6	22	Nuclear - further land is tied up by expensive backup plants
10	20	Scenic value of power facility
11	17	Damage to crops from air pollution (nuclear-coal)
12	16	Soil erosion, farming, mining, forestry, scenic value affected by transmission lines
12	16	Recreation and tourism value of area (positive)
12	16	On-site entombment freezes land on which materials are deposited and plant is located
15	14	Excessive land required for power facilities by regulation (nuclear)
16	13	Could be creating a problem of having an an inferior - poorly planned housing development in area where power plant is developed
17	11	Beauty of Lake Michigan shoreline ruined by power plants that dot it
18	10	Safety to populated area
19	8	Plants and transmission lines are ugly
19	8	Major users of power are not directly affected by land use problems
21	0	Plant would not cause problems to archaeologic-historic values

Final Ranking

Rank	Points	
1	29	Danger of radioactivity getting into food chain and water table
2	27	Disposal - utilization of energy waste
2	27	Inadequate tax incentives for community involved
4	26	Condemnation proceedings used to acquire land are unfair to landowner
5	23	Cost of building and operating plant is much greater than conservation or more efficient use of energy
6	16	Airborne emissions' effect on plants, animals, and humans
6	16	Problem of using prime agricultural land for facilities rather than locating in already industrial areas
6	16	Raising employment
9	15	Expanded economy of area
9	15	Soil erosion, farming, mining, forestry, scenic value affected by transmission lines
11	13	Cannot count on geological stability of sites chosen for disposal of nuclear waste
12	12	Hidden cost associated with construction of nuclear power plant (entombing plant)
13	11	Potential loss of revenue for farmers whose products may be contaminated from radioactivity getting into food chain
13	11	Social-aesthetic costs of losing natural areas like wetlands, forests and shorelines
15	10	Disposal of sulphur compounds
15	10	Provides energy for now and future thus insuring retention of jobs at local, statewide area (midwest) thus relieving burden of oil at this time
15	10	Storage of waste affects land values
18	9	Creates need for additional service business to serve laborers
19	8	Effects of plants and transmission lines on breeding and migration habits
19	8	Price-Anderson act - diminishing utilities liability in case of nuclear accident
19	8	Possibility of greater electric energy in the area
19	8	Returning high temperature water into lake
23	7	Isolating land used for nuclear waste disposal from biosphere
23	7	Locating plants in rural areas reduces opportunity to provide heat for home and industry
25	6	Plant would improve business climate of the area
25	6	Takes least farmland out of production, but provides the land and water facility for an energy plant that is much needed
25	6	Nuclear plant building backup unit that may endanger more of environment
28	5	Effect on new industry locating in area
29	4	Coal-possibility of endangering earth's ozone layer
30	3	Housing construction workers
31	2	Nuclear - further land is tied up by expensive backup plants
32	1	Strip mining - ugly
33	1	Scenic value of power facility
34	0	Effect upon communities' drinking water
34	0	Effect on water temperature
34	0	Safety
34	0	Land recovered from strip mining is not as productive as before. Mine tailings from uranium mines leaves land unusable
34	0	Recreation and tourism value of the area (positive)
34	0	Possible loss of population living in proximity of plant
34	0	On-site entombment freezes land on which materials deposited

GROUP 5

Biological and Physical

Rank	Points	
1	37	Safety and security
2	34	Available land and closeness to water supply
3	31	Location in relation to existing residential, commercial and industrial areas
4	29	Disposal of waste heat

Biological and Physical (continued)

Rank	Points	
5	27	Nuclear: no smoke and dust
6	25	Control of radioactive leakages and discharges
7	22	Transporting of spent fuel out of the area
8	21	Smoke and dust from coal plants
8	19	Effects of power plants on plants, aquatic life, silva and fauna
9	19	Impact on recreation: fishing, hunting, boating
11	16	Interfacing of power plant and other public and private facilities (power plant next to sewage plant next to fishing, etc.)
11	16	How to choose between air and water pollution
13	15	How much land is needed?
14	14	Underground power transmission lines wherever possible
15	13	Better research on elimination of radio and TV interference from transmission lines
16	12	Effect on roads and traffic during construction
17	10	Using waste heat for fisheries or something...
17	10	Water cooling towers
19	9	Restriction of access to areas used for recreational activity

Rank	Points	
20	8	Storage of nuclear materials
21	7	Availability of water (e.g., Lake Michigan, large sources needed)
22	6	Coal gondolas interfering with traffic
22	6	Plant design should conform to appearance of the area
22	6	Appearance, etc., of coal piles
22	6	Public should know where to go (what resources are available) for verifying information in environmental impact statements
26	4	Noise
26	4	Availability of roads, etc., for people to leave area in case of accident
26	4	Planning of transmission lines not to disrupt agricultural land
29	3	Development of buffer between plant and surrounding area
29	3	Can lay public relate to all the statistics in environmental impact statement (i.e., plummage dimensions, size, etc.)
29	3	Closer liaison between civil defense and power plant in event of major disasters (should be in S.O.P.)
32	2	Changes in environment affecting wildlife (large scale changes)
33	0	Using of valuable farmland for the site

Economic and Social

Rank	Points	
1	68	Effect on taxes
2	47	Total local community costs (includes tax structure, schools, housing, natural areas...)
3	32	Cost of power bought by consumer
4	26	New industries to service plant
5	24	Additional employment (construction and operation and effects of this on local merchants)
6	20	Need for imported personnel (local labor capabilities not sufficient to get contracts)
7	18	Access to large body of water where heat can be discharged with low environmental effect
7	18	Need to present pros and cons of economic and social costs to the local public
9	16	Jobs for building trade workers
10	14	Loss of productive land
11	12	Increased recreation facilities
11	12	Bringing in outside businesses to area
11	12	Easing of EPA regulations for uses of low sulfur fuel
14	11	Nearness to existing transmission lines
15	10	Availability of land for the site
15	10	Government loans (loan interest rates) for local governments on new construction

Rank	Points	
17	9	Access to transportation facilities for fuel
18	8	No brown-outs
19	6	Survey costs: private vs. public ownership
19	6	Railroad traffic
19	6	Profits on sale of land for plant and compensation for transmission lines (are owners satisfied?)
22	5	Changes in living standards in local community
22	5	Influx of tourists (plant: point-of-interest)
22	5	Costs of potential disasters: nuclear and natural
25	4	Creating housing problems
25	4	Routing changes needed for buses, high traffic where fogging and icing from cooling towers occurs
25	4	Effect of black lung and other hazards to coal miners
28	3	Switching grid to other power facilities in event of power failure
29	2	When present generators wear out, replace with nuclear
30	0	Creates crime and violence during construction
30	0	Access to low sulfur fuel
30	0	Homes and new buildings increase tax base
30	0	Costs of access and bypass to and around plant

Land Use

Rank	Points	
1	56	Develop good land conservation practices on land owned by the power plant
2	39	Preserve historic and architectural sites
3	30	Provide public access to lake for public use (recreation)

Rank	Points	
4	29	Return land that is not needed back to private ownership
5	28	New sites should not be sited in residential areas

Land Use (continued)

Rank	Points	
6	27	Keep prospective land purchase secret to avoid land speculation
7	26	Preserve wetlands
7	26	Loss of land used for production of food
9	20	Preserve fishing and boating in area
10	18	Aesthetic design should be compatible with the area
11	17	Recognize land use concepts of "greater than local concern', "we gotta have energy"
12	16	Locate site in center of energy distribution system
13	13	Keep boundary roads intact wherever possible
14	12	Make park out of unused land
14	12	Plant trees, etc., to obscure coal piles, etc.
14	12	Plants tend to improve police and fire protection for surrounding rural communities
17	10	Unsightly cooling towers
18	8	Coal piles and wastes: looks, space, etc.
18	8	Restoration of lands after the plant is entombed
20	7	Utilize area as tourist attraction
20	7	Plants bring urban people to rural areas because of tax advantages
20	7	Provide housing and facilities close to plant for personnel
20	7	Easy access from mine to power plant site
24	5	Power companies should provide sanitation facilities
25	2	Expansion of existing plants should not create new and/or more problems
26	1	Make survey through local organization of local historical sites

Final Ranking

Rank	Points	
1	45	Effect on taxes
2	37	Total local community costs (includes tax structure, schools, housing, natural areas...)
3	34	Location in relation to existing residential, commercial and industrial areas
4	29	Available land and closeness to water supply
5	28	Safety and security
6	21	Effects of power plants on plants, aquatic life, silva and fauna
7	18	Cost of power bought by consumer
7	18	Loss of productive land
9	16	Develop good land conservation practices on land owned by the power plant
10	15	Disposal of waste heat
11	14	Control of radioactive leakages and discharges
11	14	Access to large body of water where heat can be discharged with low environmental effect
13	12	Preserve fishing and boating in area
14	11	Provide public access to lake for public use (recreation)
14	11	Loss of land used for production of food
16	10	Transporting of spent fuel out of the area
17	8	Nuclear: no smoke and dust
18	7	Need to present pros and cons of economic and social costs to the local public
18	7	Preserve historic and architectural sites
20	6	New industries to service plant
20	6	New plants should not be sited in residential areas
22	5	Additional employment (construction and operation) and effects of this on local merchants
24	4	Impact on recreation: fishing, hunting, boating
26	2	Smoke and dust from coal plants
27	1	Need for power
28	0	Need for imported personnel (local labor capabilities not sufficient to get contracts)
28	0	Return land that is not needed back to private ownership
28	0	Keep prospective land purchase secret to avoid land speculation
28	0	Preserve wetlands

APPENDIX F

THE SURVEY

SPECIAL SURVEY FOR WORKSHOP PARTICIPANTS

WE WOULD APPRECIATE YOUR HELP IN ANSWERING THE FOLLOWING QUESTIONS, WHICH MAY NOT BE COVERED DURING THE WORKSHOP. YOUR ANSWERS WILL BE AN IMPORTANT COMPONENT OF THE SUMMARY REPORT.

How would you rate each of the following areas as a potential nuclear power plant site? Please circle the number which indicates your rating of each type of area. Please read all the categories before you start circling your answers.

	VERY POOR LOCATION	POOR LOCATION	NO OPINION	GOOD LOCATION	VERY GOOD LOCATION
IN HEAVILY INDUSTRIAL AREAS	-2	-1	0	+1	+2
NEAR (WITHIN 2 MILES OF) HEAVILY INDUSTRIAL AREAS	-2	-1	0	+1	+2
IN AGRICULTURAL AREAS	-2	-1	0	+1	+2
NEAR AGRICULTURAL AREAS	-2	-1	0	+1	+2
IN LIGHT COMMERCIAL AREAS	-2	-1	0	+1	+2
NEAR LIGHT COMMERCIAL AREAS	-2	-1	0	+1	+2
IN RESIDENTIAL AREAS	-2	-1	0	+1	+2
NEAR RESIDENTIAL AREAS	-2	-1	0	+1	+2
NEAR PARK AREA	-2	-1	0	+1	+2
IN FOREST AREAS	-2	-1	0	+1	+2
NEAR FOREST AREAS	-2	-1	0	+1	+2
ON GREAT LAKES SHORELINES	-2	-1	0	+1	+2
NEAR GREAT LAKES SHORELINES	-2	-1	0	+1	+2
ON SHORES OF SMALLER LAKES	-2	-1	0	+1	+2
NEAR SHORES OF SMALLER LAKES	-2	-1	0	+1	+2
IN WETLANDS	-2	-1	0	+1	+2
NEAR WETLANDS	-2	-1	0	+1	+2
ON RIVERBANKS	-2	-1	0	+1	+2
NEAR RIVERBANKS	-2	-1	0	+1	+2

How would you feel about the location of a power plant in your area, under each of the following two conditions?

	STRONGLY NEGATIVE	NEGATIVE	NEUTRAL	POSITIVE	STRONGLY POSITIVE
1. The power plant would basically supply energy to your area.	-2	-1	0	+1	+2
2. The plant would basically supply energy to other parts of the state.	-2	-1	0	+1	+2

To supply about the same amount of power, do you think one large plant would be ____better than ____about the same as, or ____worse than several smaller plants?

Have the new tax laws changed the way you would feel about the construction of a power plant in your community?

____YES ____NO

If "yes", how have your feelings changed?

much more negative	somewhat more negative	more positive	much more positive

About how far do you live from any existing power plant?

____less than 5 miles ____from 5-10 miles ____further than 10 miles

____don't know

Can you see the power plant from where you live? ____YES ____NO ____Don't know

Can you see high voltage transmission lines from where you live?

____YES ____NO ____Don't know

We would like you to rank the following 8 types of areas for their suitability for high-voltage transmission lines, from "1" (most suitable) through "8" (least suitable).

Please write the appropriate number in the space next to each item.

____AGRICULTURAL LAND

____RESIDENTIAL AREAS

____INDUSTRIAL AREAS

____SHORELINE AREAS

____COMMERCIAL AREAS

____PARKS

____WETLANDS

____FORESTS

For how many years have you lived in this area?

____less than 1 ____1-5 years ____5-10 years ____ more than 10

Next we would like you to rank the following seven types of areas for their suitability for a power plant site, from "1" (most suitable) through "7" (least suitable). Please write the appropriate number in the space next to each item.

____PARKS

____RESIDENTIAL AREAS

____AGRICULTURAL AREAS

____LIGHT COMMERCIAL AREAS

____HEAVILY INDUSTRIAL AREAS

____NATURAL AREAS

____SHORELINE AREAS

Do you presently belong to any of the following types of organizations, associations or clubs, or have you belonged within the past three years? Please check each appropriate choice.

____AGRICULTURAL

____ENVIRONMENTAL

____BUSINESS

____PROFESSIONAL

____SPORTS OR RECREATIONAL

____POLITICAL

____CIVIC

____OTHER______________________________

What is your occupation? Please be as specific as possible.

____

What is your age?

21-35 36-50 50+

Overall, how would you rate the Power Plant Siting Workshop?

____POOR

____FAIR, BUT COULD HAVE BEEN BETTER

____GOOD, ONLY MINOR PROBLEMS

____EXCELLENT

If you would like to comment on any aspect of the workshop or the concerns addressed, please tell us about them in the space below.

____

____

____

____

THANK YOU VERY MUCH FOR YOUR HELP.

One additional sheet -

How would you rate each of the following areas as a potential. COAL power plant site? Please circle the number which indicates your rating of each type of area. Please read all the categories before you start circling your answers.

	VERY POOR LOCATION	POOR LOCATION	NO OPINION	GOOD LOCATION	VERY GOOD LOCATION
IN HEAVILY INDUSTRIAL AREAS	-2	-1	0	+1	+2
NEAR (WITHIN 2 MILES OF) HEAVILY INDUSTRIAL AREAS	-2	-1	0	+1	+2
IN AGRICULTURAL AREAS	-2	-1	0	+1	+2
NEAR AGRICULTURAL AREAS	-2	-1	0	+1	+2
IN LIGHT COMMERCIAL AREAS	-2	-1	0	+1	+2
NEAR LIGHT COMMERCIAL AREAS	-2	-1	0	+1	+2
IN RESIDENTIAL AREAS	-2	-1	0	+1	+2
NEAR RESIDENTIAL AREAS	-2	-1	0	+1	+2
NEAR PARK AREAS	-2	-1	0	+1	+2
IN FOREST AREAS	-2	-1	0	+1	+2
NEAR FOREST AREAS	-2	-1	0	+1	+2
ON GREAT LAKES SHORELINES	-2	-1	0	+1	+2
NEAR GREAT LAKES SHORELINES	-2	-1	0	+1	+2
ON SHORES OF SMALLER LAKES	-2	-1	0	+1	+2
NEAR SHORES OF SMALLER LAKES	-2	-1	0	+1	+2

IN WETLANDS	-2	-1	0	+1	+2
NEAR WETLANDS	-2	-1	0	+1	+2
ON RIVERBANKS	-2	-1	0	+1	+2
NEAR RIVERBANKS	-2	-1	0	+1	+2

Next we would like you to rank the following seven types of areas for their suitability for a COAL fired power plant site, from "1" (most suitable) through "7" (least suitable). Please write the appropriate number in the space next to each item.

_______ PARKS

_______ RESIDENTIAL AREAS

_______ AGRICULTURAL AREAS

_______ LIGHT COMMERCIAL AREAS

_______ HEAVILY INDUSTRIAL AREAS

_______ NATURAL AREAS

_______ SHORELINE AREAS

APPENDIX G

COMMENTS ON THE WORKSHOPS

COMMENTS OF THOSE WHO RATED THE WORKSHOPS AS POOR

This workshop is for those who can afford to take a day off work and have the inclination to care, or are unemployed. Perhaps a number of persons, as myself, would like to be here and help you but the economic crises caused by the loss of a day's wages is hard on my family. I personally would prefer an evening or weekend date if we all get together to do this again. Thank you. (Carpenter)

Most opinions were unqualified. More education in nuclear power and safety to educate all is badly needed. (Ass't General Manager)

Employed grass roots people can't afford to attend these workshops on weekdays and daylight hours. (Professor)

A very fine workshop. I enjoyed it very much. (Retired Science & Math Teacher).

Other: Farmer

COMMENTS OF THOSE WHO RATED THE WORKSHOPS AS FAIR

Since all workshops were held at potential nuclear sites and since site considerations, by federal and state law, differ for type of plant, I believe an outright admission that the workshop was a sampling of opinion on nuclear plants should have been made explicit from the beginning. For instance, how can this questionnaire ask if the first four categories on p 1 are good nuclear sites when federal regulations prohibit such siting? (Teacher)

Much input by the participants, but no concerns or questions answered! Were concerns real or well-founded? This type of workshop pinpoints concerns, but provided NO ANSWERS. There is a need for some informative sessions by qualified, non-biased authorities. Perhaps more direction by group leaders in pinpointing or defining concerns - when concerns numbered over 30 there was overlapping and final count was affected. The question, "Is anyone else concerned with this area? Can we combine your concern, or not???", could have kept number of duplications down. (Advertising Exec.)

The participants could not follow directions at all. (Dist. Manager, Utility Company)

It is frustrating to deal with such complex issues in such a short time. I'm not sure the data is reliable. Grouping concerns before voting might have helped. (Homemaker, Teacher)

Assumption is for large central station plants (I think) answers to questions (on this survey) are different for different sizes and types of plants. (Secretary)

Fair, but could have been better. There is only so much you can do with this sort of thing. I did learn a lot. I'm just not optimistic of the outcome of the research, lobbies in Washington D.C. being what they are. I am concerned that this material could be used to the advantage of industry. When they know what John Q. Public is concerned about, they can set to work launching an ad campaign to dispel his beliefs. (Houseparent for retarded/Office Worker)

I feel it is highly invalid. I rebel at the whole notion that A.P.A. bureaucrats should decide where plants will go. The industry, local communities and the market can best determine this. Adequate incentives via tax benefits will induce communities to put up with the disadvantage of hosting a plant. Perhaps communities could bid (negatively) for plants. (i.e., "Pay us X$ to cover the risk and inconvenience of a plant to us and we will accept one.") Everyone wants power but no one wants plants near them. Make social costs private costs (i.e., don't let plants impose costs on others for which they are not reimbursed. Anti-pollution laws accomplish this - relocation allowances accomplish this, etc. (Economist, Farm Wife, Politician)

A workshop such as this oversimplifies the array of economic interdependencies of the environmental, social and land use considerations of power plant siting. (Economic Community Development, City)

I don't like this survey. I oppose nukes and oppose their siting anywhere. Also I question the validity of this workshop due to sample problems, specifically how do absences of certain representatives affect the results. Secondly, were union people invited? (Hospital Orderly)

A boring exercise in democratic effort to get opinions - the value of which is questionable at best. (Teacher)

Survey by mail and use of computer could have been used without taking away from time needs of participants. (City Attorney)

There's a limit to how much of this type of analysis and how representative of informed public opinion it is. (Municipal Public Works Director)

Too much ground to cover in time allotted. The number of similar concerns with small differences in wording invalidates the ranking. As the lesser of two evils, I would prefer consolidation of similar concerns. (Paper Mill Executive)

I am primarily interested in seeing that we build power plants as rapidly as possible. Not strict enough in separating categories. Good method of extracting ideas. (Paper Mill Executive)

Based on intuitive thoughts more discussion on how to approach the problem would be helpful and make the workshop more meaningful. (Paper Mill Executive)

Excellent for the purpose of gathering opinions. The purpose of the workshop wasn't clearly disclosed. (Manager Financial Inst. & Chamber President)

All interests at my table not represented in approximately equal numbers: 10 pronuclear, 1 opposed. (Homemaker)

Others: President of Chamber of Commerce, County Agricultural Agent, Executive of Electric Utility, Insurance Agent, County Planner, Consulting Electrical Engineer.

COMMENTS OF THOSE WHO RATED THE WORKSHOPS AS GOOD

(Idea excellent). Would recommend the use of a referendum vote in areas of much dispute when nuclear plants are controversial. (Owner-Operator of Commercial Sign Studio)

Don't address these as concerns, these are, as yet unsolvable problems. (Housewife)

I feel the workshop helped to provide a better understanding of some of the problems facing everybody in meeting our energy needs. Believe a definition of the types of parks and forest areas you have in mind would be helpful in trying to place an evaluation on them for a site location. I personally feel that certain forest areas may well be considered a practical site. The same could probably apply to large wilderness area parks that are not normally used by large crowds. (Semi-Retired Business Executive)

Nowhere was there an effort to establish whether people wanted a plant or wanted less energy consumption. (Housing Planner)

Covered much material - time is a problem - not much discussion. (Dairy Farmer)

Well conceived to obtain public opinion. Phraseology of several similar concerns could result in dilution of vote on an area. (District Manager, Utility)

Scope seemed limited by prevailing power plant siting concerns in the area, particularly reflecting the concern about nuclear power. (Group Leader, Testing Services)

Some problem came about because of discussion of need vs. siting of plant. People need reassurance of need of plant in itself. These concerns should have been weeded, and concerns evaluated with the given: power plant is needed: Question, where to site? (Librarian)

In rating for essentially similar categories, participants may have split their votes, resulting in a low count for each, and eliminating them from the final list. Judgments for such long lists were hard to make and were probably unrealistic in choice of rating. (Retired College Professor)

There are many alternatives to some of these questions that were not listed. (General Farming)

Will bring out concerns which may reveal a need for better information to the public. (Div. Mgr. Elect. & Gas Utility)

Seemed to be quite productive. Heard good comments from participants. Only problems were those discussed below: Small group leaders tended to change wording of concerns listed by participants. Lost a lot of time during listing process by debating wording. Group too often changed what participant initially said. Heard group leader commenting on personal opinions during process. Her opinions may have tended to bias the group. (Coastal Planner)

Overlapping in biological physical and economic and social concerns. Ambiquity in some of statements as to what was meant, i.e., affect on local taxes (i.e. + or -). Habit of combining numbers to reduce voting choices was highly political. (Supervisor in Post Secondary Education)

Method used is restrictive in expressing concerns. Relative measures hard to express. Priority of concerns are hard to express in a hurry. (Volunteer)

A lot of the concerns mentioned were repetitious and got very technical. They should have remained more general. (Soil Conservationist)

Let's get a power plant of some kind started shortly. (Retired)

One possible problem is the distortion of findings (rankings) due to the interests of the individuals attending. They do not necessarily represent the total interests of the public. (Manager of Electric Utility)

Would have been interesting to have time to explore problems of greatest concern. (Dist. Manager, Utility)

More specific instructions on power plant siting - too much emphasis on specific sites in area. (Dist. Mgr., Wis. Electric Power Co.)

Difficult to wait for overall results so long. (Housewife, Newspaper Correspondent)

Assumptions should have included consideration of plant size - this affects my opinions markedly, also growth in overall power production. (Chemist)

I would have appreciated learning from some of the expertise in the group. (Housewife concerned with Env. quality)

What is the value - we need power plants - they have to be some place. (County Supervisor)

Clarify rating instructions. (Homemaker)

More specific definitions needed of concern categories. (Engineering Mgr., Prof. Engr.)

Should make the instructions for drafting criteria suggestions. (Lawyer)

Everyone wants power - no one wants to be inconvenienced. (Retired)

It's difficult for participants from both sides of issues to refrain from imposing their biases on others. (Manager, Electric Utility)

Ten is too many suggestions from each participant. Five would be better. (No occupation listed)

Send explanation, in brief, on mechanics and expectations of "nominal group" techniques along with workshop results...to all participants. (County Planning Director)

The nominal group approach was very appropriate for securing group opinions without stifling comments and participation. (Electric Utility Employee)

The letter inviting participation did not clarify what kind of a site was to be considered. I just presumed it would be a nuclear or coal-fired. It would have helped our research had we been informed more definitely. (Retired Teacher)

By agreement, cross out or combine minor concerns before voting to prevent spreading of votes amongst concerns. (Land Use Consultant)

The final words - a lot of different answers to one question. (Housewife)

Question that selection was completely balanced - perhaps due to area response. (Potato Plant Manager)

Concept is good, leaders are helpful. Moves right along. I am somewhat overwhelmed by so much attempted. (Retired School Administrator)

My concern is not with the workshop but with the lack of conservation of what we already have - the biggest waste is lighting of shopping centers. I feel they should close at 6 p.m. The parking lighting could be eliminated. Sunday openings should be eliminated - this would save thousands of gallons of gasoline. (Retired from sales)

Couldn't give reasons for not having power plants at all. I think we should have one category for people who want a crash program (like the flight to the moon) and it should be financed by the federal government. I think we should listen to Ralph Nader, Jacques Cousteau, Senator Frank Church, and Douglas LaFollette. We should have a crash program on solar and other forms of clean energy. (Housewife. Piano Teacher, Environmentalist)

Could have spent less time. (News Reporter)

Listing of ideas is good but interpretation of those ideas is a problem. Will they have the same meaning to someone else at a later time as they currently have for me? It is good to see that people are concerned: I hope these concerns are taken seriously by the powers that be. (Professor)

The scope was a little narrow. (Farmer)

I dislike the attitude taken that a nuclear plant will be built; that is nowhere near being a valid assumption. This assumption is very much evident in the way this survey is written. (Printing Contractor)

This program format is somewhat restrictive, but OK for large group in limited time. There is a probem of interpretation of categories. (Ag Writer, Journalist)

Should be more concern on shortage of electricity instead of danger. (Farmer)

I feel the workshop helped to provide a better understanding of some of the problems facing everybody in meeting our energy needs. Believe a definition of the types [illegible] parks and forest areas you have in mind would be helpful in trying to place an evaluation on them for a site location. I personally feel that certain forest areas may well be considered a practical site. The same could probably apply to large wilderness parks that are not normally used by large crowds. (Business Executive)

Keep power plants close to the prime usage, as not to interfere with the production of food and fiber for the underfed world. Even if the mass labor forces of the U.S. are not underfed. (Agriculture production of food and fiber)

Would have preferred separating the different types of power plants for the ranking process. (City Planner)

I'm sure some of my answers would be different if a specific site or sites were being considered. Hard to be realistic when thinking in generalities - trade-offs don't enter in in the same way. (Housewife active in Env. Org.)

I felt we should have been more positive in our approach to power plant siting. (Dairy Farmer)

I am not in favor of any new power plants (nuclear) until a number of issues are solved, namely, waste disposal, effective radioactive monitoring, prevention of sabotage, etc...I have recently become aware that if limestone can be added to coal production procedure, sulphur emissions are greatly reduced. On that basis, I answered the survey. (Student)

I think we should have been able to evaluate the top ten after listing to see if the group felt something should be moved up or out. (Housewife)

Enjoyed the people - did not realize the deep division of opinion. (Cash Grain and Mink Farmer)

Many of the individuals are not well enough informed to look at all the problems involved and their interrelationship. Many do not have technical knowledge to know what priorities should be. (Musician)

Others: County Surveyor and Realtor, Education, Retired Farmer/REA Board, Environmental Engineer/Contractor, Dairy Farmer, Planner, Homemaker/Commission on Aging, Chemistry Professor, Farmer/Trucker/Logger, Farmer/Seed Dealer, Vice-President Bank and Insurance Agent, Planner, Mechanical Engineer, Electrical Engineer, Housewife, Retired Teacher, Farmer, Writer, Farmer, Farmwife, Retired Engineer, Newspaper Reporter, Professor, Farmer, Education Supervisor, Plumbing and Heating Business, Insurance Agent, Homemaker/Elementary Teacher, Farmer, Retired Millitary/Realtor, Graduate Student, Division Manager, Carpenter, Civil Defense Director, Retired Mason Contractor (now Bait and Tackle Shop), Government Employee, Fishery Biologist, Farm Owner, Extension Resource Agent, President of Environmental Engineering Contracting Firm.

COMMENTS OF THOSE WHO RATED THE WORKSHOPS AS EXCELLENT

Very good approach. (Retired - part time Assessor and County Board)

Would help to have a little more time for evaluation even if it meant an evening session or earlier start. (Pharmacist, Bank President)

All concerns voiced. Leadership non-controversial - conducive to freedom of expression. Good mix of participants. (Homemaker)

Please - PSC and DNR and EPA - listen to the concerns of average citizens. The utilities are too powerful and enjoy a luxurious monopoly. And to think we even tolerate advertising for increased energy consumption by the utilities. (Teacher)

You did a great job. I hope such workshops can be held all over the U.S. (College Prof.)

I wish it could have been held on a Saturday, for weekdays with jobs are difficult to coordinate. (Teacher, Politician, Farmer)

It was stated at the workshop, but it seemed everyone was picking out the negative aspects of a power plant. (Retired - Soil & Water Conservation)

Some groups were biased in utilities favor; some groups were biased against power plants. (Housewife, County Supervisor)

More input given by small groups due to ease of relating to given subjects. (Accountant)

O.K., but nearly all ideas expressed were already known to me. (Dairy Farmer)

Proper use of speaker system. (Resort Owner)

Lack of understanding of agriculture problems by people participating. (Housewife)

If this is Professor Delbecq's technique for group workshops, I go along with it 100%. Dave Younkman did a fine job. (Executive Dir., Tourism Promotion Association)

The workshop is fine, but I do hope your work to the PSC will be able to carry some weight and that the PSC will be able to carry some weight with NRC. (General Farming)

Interesting and informative. (Housewife)

Could have used more time to rank concerns once they were itemized. (Financial Manager)

I think this is tremendous. Would like more information about other groups, here and in other areas. Also a check against other methods. (Housewife, Environmentalist)

I enjoyed hearing other people's views at my table - very educational. (Retired Gas Service Man (Natural Gas Company)

It was a good way to exchange ideas. (Grain Farmer)

I believe all measures to bring considerations of these issues that must involve reevaluation of our physical and social environmental concerns, on the basis of futurism and the common goals of humanity, is vitally important. (Museum Dir.)

Would like to have scientists, etc., work on how nuclear energy waste can be neutralized so it would be safe before nuclear plants would be built. (County Board Supervisor)

Very good. If there is any argument about electricity shut off the power in all plants in the nation for one day.

I would like to see more done on solar energy which is free and doesn't harm people. Spend more time and money on this study (solar energy). (Dairy Farmer)

Others: Engineer for Electrical Co-op, Extension Agent, County Park Superintendent, Farmer, Artist, Housewife, Extension Resource Agent, County Coordinator for Elderly, Maintenance, Extension Home Economist, Pulp and Paper Technician, Paper Mill Manager, Municipal Employee, Union Business Representative, Farmer, Unemployed Teacher Retired Person, Forester DNR, Interior Designer and Consultant/active in community affairs.

COMMENTS OF THOSE WHO DID NOT RATE THE WORKSHOPS

I am against siting of anymore nuclear or low fired coal plants. I am for mass production of solar units for home heating and air conditioning. I would like to see more pilot projects, such as the fuel cell funded by ERDA. If forced to choose between nuclear and coal, I could go with coal if scrubbers, etc., to keep air quality standards high were used. More emphasis on energy efficient conservation. (Housewife)

We are, under the present energy condition, going to need more electrical power and must learn not to pass the burdens on others of assuming responsibilities which are very beneficial to us in our different localities. (Marine Operator)

Emphasis could be placed on hydroelectricity and solar energy. Solar energy not in large scale energy parks, but at the site where used, perhaps with technology and components provided by local power plant. (County Planner)

I don't want a nuclear power plant anywhere. I only want coal as an interim measure for the next fifty years or so until we develop solar, wind power, geothermal power, etc. (Active Citizen)

How much impact will these workshops have on actual power plant siting? (Dairy Farmer)

I did not answer the above because I am not sure of the goal of the workshop. (Homemaker, Comm. Worker)

Appreciated an impersonal atmosphere to prioritize without a need to defend my personal opinions.
(Exec. V.P., Chamber of Commerce)

Too general - not specifying type of plants makes difficult if not impossible to answer questions or ranking. Hard to compare the incomparable. (V.P., Real Estate & Development Company)

These questions are too general - there are only certain specific areas that are suitable (i.e., bedrock close, water supply close), therefore, generalizing is not a good approach. You should list specific sites and then relate questions about them. (Paper Mill Manager)